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GLEANINGS IN BEE CULTURE

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No. 3.—Three-fourths of the total surface must be filled and sealed.

No. 4.—Must weigh at least half as much as a full-weight section.

In addition to this the honey is to be classified according to color, using the terms white, amber, and dark, that is, there will be "Fancy White," "No. 1 Dark," etc.

SAN ANTONIO.—I have now arranged to keep bulk, comb, and extracted honey in hot storage rooms all winter for prompt shipping, and should be pleased to have your business in the future. I handle only strictly first-class, white pure honey. I quote you for the next ten days, f. o. b. San Antonio, the following: Bulk comb honey, 60-lb. cans, 2 in case 8-in. screw cap; 9. 12-lb. friction-top pails, 10 in case, 9½. 6-lb. friction-top pails, 10 in case, 10½; 3-lb. friction-top pails, 20 in case, 11. Extracted honey, 1½ lower than the above prices. Terms, sight draft, bill-lading attached, subject to examination.

UDO TOEPPELWEIN,
San Antonio, Texas.

Nov. 21.

MILWAUKEE.—Since our last report the receipts of honey have been liberal—rather accumulative—especially on comb, the demand has not been equal, and values are lower to sell. The increased supply is one fact to weaken values, and another is that some who have honey to sell make a lower market by offering to sell below quotations, which otherwise might be more easily maintained; and some deliver at a price made by buyers, which has a temporary depressing effect on market values. We lack for a consuming demand for the supply, and will quote as follows: Comb, fancy section, 13@15; No. 1 sections, 12½@13; extracted, in barrels, old or damaged, nominal, 10@11; cans, kegs, pails, choice, well ripened, white, 7@8; cans, pails, choice, well ripened dark or amber 6@7. Beeswax, 28@30.

A. V. BISHOP & CO.,
119 Buffalo St., Milwaukee, Wis.

Nov. 23.

CHICAGO.—Prices of honey are steady, but there is an absence of demand, which, if continued, may cause a lower range of prices. Fancy and No. 1 grades of white comb bring 13c; with less desirable grades, due to three cents lower. White extracted, 6@7½, according to kind, flavor, and package: amber, 5@6½; Beeswax, 28@30.

R. A. BURNETT & CO.,
199 South Water St., Chicago, Ill.

Nov. 24.

TORONTO—The prices of honey are about as follows: Fancy comb, \$2.00 per dozen; A No. 1, \$1.75 per dozen; No. 1, \$1.50 per dozen; No. 2, \$1.00 per dozen; extracted, white clover, and basswood, 5 and 10 lb. jars, 7½, extracted, white, 60-lb. cans, 6½@7.

M. MOYER,
408 Spadina Ave.

Nov. 10.

BUFFALO.—Comb honey is moving fairly well now. In quantity we have to shade quotations a little. Demand is for pure white honey with clear white comb. Comb that has a yellow shade sells for less price. Fancy white comb, 14½@15; A No. 1 white comb, 14@14½; No. 1 white comb, 13½@14; No. 2 white comb, 12@12½; No. 3 white comb, 11@12; No. 1 buckwheat, 11½@12; No. 2 buckwheat, 10@11; white extracted, 6½@7; amber, 6@6½; dark, 5@5½. Beeswax, 28@30.

W. C. TOWNSEND,
178 & 180 Perry St., Buffalo, N. Y.

Nov. 12.

SCHENECTADY.—The crop of honey seems to have been much larger than at first reported, and producers are now becoming anxious to dispose of their stock. There have been two or three carloads here from the west and our market is well supplied, and prices are easier. Fancy white, 15; No. 1, 14½; mixed, 13@13½; buckwheat, 12@13; extracted, light, 6½@7½; dark, 6@6½.

CHAS. McCULLOCH,
Schenectady, N. Y.

Nov. 26.

CINCINNATI.—The demand for comb honey is slower now than it was six weeks ago, owing to the enormous quantities offered on all sides. Fancy comb is sold in single case lots at 14. The supply of extracted honey is big, although the demand is good. We are selling amber extracted in barrels at 5½@6½; white clover, in barrels and cans, 7½@8½, according to quality. Beeswax, 30.

THE FRED W. MUTH CO.,
Front & Walnut, Cincinnati, Ohio.

SAN FRANCISCO.—Honey, new comb, white, 12@14; amber, 10@12; extracted, water-white, 5@6; light amber, 5@5½; dark amber, 4½@5. Beeswax, 30.

ERNEST B. SCHAEFFLE,
Murphys, Cal.

Nov. 12.

ALBANY.—Heavy demand some easier as is usually the case as weather grows colder. We quote: Fancy, white comb, 15½@16; A No. 1, 13; No. 1, 14; mixed, 13@13½; buckwheat, 13@13½. We notice much improvement in the better shape honey receipts come in now since the handle racks or carriers are being used. Honey arrives in good order, and sells by the rack. Buyers buy more than by single case, as it is so convenient to handle. Like the now universal use of the standard pound sections, these improvements are a great benefit to the honey industry.

MACDOUGAL & CO.,
375 Broadway, Albany, N. Y.

BOSTON.—Western honey is arriving more freely in our State, causing a slight drop in prices. Fancy No. 1 in cartons bring, 17; A No. 1, 16; No. 1, 15; extracted white, 8½; light amber, 7@7½; amber, 6@7.

BLAKE, SCOTT & LEE,
Boston, Mass.

Nov. 25.

CINCINNATI.—The demand for honey is a little better. The prices rule about the same. Extracted, amber, in bar els 5½@5½; in cans, about ¾ more; water-white alfalfa, 6@6½; white clover, 6½@7½. The comb-honey market is quite lively, and sells as follows: Fancy water-white, 14@15. Beeswax is in good demand, and I will now pay 30 del vered here.

C. H. W. WEBER,
2146 Central Ave., Cincinnati, Ohio.

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FOR SALE.—5000 lbs. of fine comb and extracted honey, mostly all comb.

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SCHEANINGS IN BEE CULTURE

A JOURNAL DEVOTED TO BEES AND HONEY AND HOME INTERESTS.

ILLUSTRATED SEMI-MONTHLY

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No. 23



LET ME ASK J. J. Burke whether that honey that soured, p. 967, was not extracted while yet too thin.

MY HAND is to my ear, listening to hear what Henry Alley calls back to Geo. W. Phillips after reading p. 959. [I made a similar remark after reading Mr. Phillips' article. "But," says Mr. P., "should I soft soap my article to such an extent that I would say what I do not believe?" "Why, no," said I.—ED.]

CHARLES L. R. BARNHART shook swarms about May 10, and they swarmed a month later, p. 966. Exactly what I should expect in this locality after such early shaking. But was there not something abnormal to make general preparations for swarming so early as May 10, or is New York so much earlier than here?

WM. DUNCAN put me on the track of tags for numbering hives that were just the thing—figures stamped in aluminum or other metal; but, alas! prices were prohibitory—5 cents for a tag with two figures. Printed manilla tags have not proved satisfactory, and so far nothing seems better than tin tags hand-painted. [But don't you remember, doctor, that tin made by the modern process rusts very rapidly? Paint does not seem to protect it. What would be the matter with using zinc? There is a kind of scrap that we could use that would make this kind of tags; and they would last a lifetime, paint or no paint.—ED.]

PLAINLY I SEE that I've been away from Medina too long. When I was there last, Stenog was a consistent prohibitionist—been at it for years—now he's been drinking tangle-foot, or rather tangle-tongue or tangle-pen—at any rate he's got things all

tangled up on pages 913 and 953. From p. 953 one would get the impression that the English writer favored *pro* (it is plainly so stated p. 913), and I favored *prop*. Exactly the reverse is the case—the English writer said all the vowels should be short; and if I wrote at all what I thought, I wrote that the dictionaries preferred *pro*. How the Englishman could urge short *o* to keep in sight the original word *pro* is his funeral, not mine. [Doubtless either *pro*-nunciation is *prop*-er. The spelling is all I have to look after. The Englishman seems to use language to conceal ideas.—ST.]

LAST NIGHT, Bro. A. I., I read aloud Notes of Travel, p. 972, to an appreciative audience, and the question was then raised whether our Marengo climate mightn't do as well for you as Northern Michigan. You could bring Mrs. Root along with the cook-book she uses up in the woods. It would hardly do for you to wheel potatoes, for now in the middle of November we've had 10 to 12 above zero for several mornings; but we could have lots of fun wheeling one another. I could ride and you wheel till you got tired, and then you could wheel and I'd ride. [See answer to another Straw on the "comedy of errors."—ED.]

BROTHER DOOLITTLE has urged very emphatically the importance of knowing one's honey resources, and then having one's colonies strong only at the time when that strength is needed. While fully realizing the importance of thorough acquaintance as to honey resources, I never felt that I was smart enough, with conditions in my locality, to put in practice profitably the last part of the rule. I've always been too much of a coward, however, to come out plainly and say so; but now that my namesake, S. E. Miller, has boldly defined his position, in *Progressive*, I'm ready to get behind his broad shoulders so he may get the benefit of any stray brickbats that may be shied, and echo his sentiment: "The rule with me must be, *colonies always strong*."

TORONTO, p. 947, seems to be falling in line with Colorado, quoting sections by the piece instead of by weight. Perhaps that's

the right thing; at least, if it's right for the grocer to sell by the piece why shouldn't he buy by the piece? [Because there is no reason for selling by the piece. When he buys in bulk he can just as well buy by weight, and perhaps better; because if he bought his sections by the piece in the case he would have no means of knowing whether he is getting a uniform quantity, because most of the honey is covered from view. The consumer, when he buys his box of honey, sees the whole thing, inside and out. But in Colorado, honey is actually sold by the case. If you wish to buy at wholesale you ask what the price is, and you find it is so much per case. I could see no objection to that, providing we knew we were dealing with honest people, and there was a certain system of grading that was understood between the buyer and seller, as is the case in Colorado.—Ed.]

SPEAKING of errors, the editor says to me, p. 952, "But, say; once in a while we catch a slip in your copy, and fix it." Yes, that's just it; those GLEANINGS fellows have the whip-hand of me. There's that man Stenog. I have to depend on him to furnish semicolons and things to sprinkle into my copy wherever they belong, and on that account I don't dare to abuse him only about so much for fear that, if I stir him up too much, he'll print some of my stuff just as I send it in; and I don't dare to bear down too hard on that young upstart of an editor for fear when I write something that says just the opposite of what I mean he'll let it go in just as written, and not stop to "fix it." [Yes, in this batch of Straws, doctor, you have made another slip. Out of pure revenge I am going to let it stand just as it is, for revenge is sweet. I refer to that Straw in this issue where you are telling about letting A. I. R. push the wheelbarrow with you in it. At first I thought you meant it as a joke; but the preceding sentence is a disclaimer. If you had not put in the phrase, "wheeling one another," we should have thought it was the old case of the trapper and the Indian — "Here, Pete, you may have the hen and I will take the turkey; or I will take the turkey and you may have the hen.—Ed.]

MR. EDITOR, I note what you say about the Chicago market, p. 952. After giving full consideration to the pretty talk there, I have just one question for you. According to the quotations on page 907, for a 12-section case weighing 11 pounds I can get \$1.54, and for a 12-section case weighing 12 pounds I can get \$1.44. Now the question is this: If I can get \$1.54 for one case, and will have to take 10 cents less for another case just as good, for no other reason than that it has a pound more honey in it, don't you think there are at least some signs of incipient decay? ["Scintilla" is a term used in legal parlance to designate the minutest of minute fragment of interest. Now, while I will admit there might be a scintilla of rottenness in Chicago, in the case you

have mentioned, yet the rottenness of all depends on whether there is a deliberate intent to defraud. Trade conditions call for lighter packages, and from the producer's standpoint it is a difficult matter to get a $4\frac{1}{4} \times 4\frac{1}{4}$ to average a full pound unless it is $1\frac{5}{8}$ or 2 inches thick. A thick comb is not as well ripened nor as quickly built. The tendency is toward a thinner comb, not because it cheats the consumer, but because it is more satisfactory to the bee-keeper. Is it not true that a thinner comb will have fewer uncapped cells? After all, the question hinges on whether the sections are sold by the weight or by the piece. If I sell you a piece of ground for \$100, and there is no talk between us as to the amount of land in the piece, and no intention on my part to make you think there is a full acre when there is not, there is not even a scintilla of "rottenness."—Ed.]

MUCH TIME was taken up at Los Angeles discussing the use of the honey-knife, and whether hot or cold water should be used. T. F. Bingham tells in *American Bee Journal* how he uses the Bingham knife. He uses the $\frac{1}{4}$ -inch bevel next the honey, and has a wooden pail or shallow pan filled with ordinarily cool water, into which he drops the knife whenever time permits. He advises never to use hot water, as the edge of the knife will be made thick with wax, and will not cut. [When in California I helped Mr. Mendleson uncap and extract both. He gave me, as I thought at the time, convincing proof that a honey-knife taken out of water a little more than lukewarm would shave the cappings cleaner and easier than when the knives were left all stuck up with thick honey. On the other hand, our Mr. Phillips, who has extracted many thousand pounds of honey in Jamaica, says he does not want any warm knife, if the edge is made with a file so as to be slightly rough so that the knife can be worked like a saw. I recall that in California the honey we were extracting was very, very thick. Warming the knife would thin the honey just enough so the blade would slide easily over the face of the comb. From the standpoint of the Californian, Mr. Bingham is both right and wrong. The probabilities are that the extracted-honey man will have to be governed by conditions.—Ed.]

A FRIEND whose modesty forbids mention of his name writes that he has succeeded in keeping extracted honey without granulating, merely by heating it. My first thought was, "Yes, that's old; heat it to about 160 degrees and seal it." But a second reading shows no mention of sealing, and he says he ran cappings through the solar, and the honey showed no signs of granulation after six months; but he doesn't know the exact degree of heat necessary. I suspect it's the length rather than the intensity of the heat that's important. Comb honey kept in a hot garret next the roof throughout the summer will not granulate for a year or more, as I reported years ago.

Why should it not work the same with extracted? I suspect that honey kept for six weeks where it would have the full benefit of the sun, as in a garret, would go a long time without granulating. Such honey ought to be very rich, and our friend's suggestion gives a clue to something worth trying. Later.—GLEANINGS, 908, confirms the above. [We have pretty good evidence from several reliable sources that honey kept in a warm place for a considerable time will resist granulation, without sealing. It is about time we were beginning to recognize the fact that those of us who do a bottling business should, if possible, put our honey in a warm place for a month or more before bottling. Why couldn't we utilize our greenhouses or perhaps our house garrets in the summer time? If we haven't a greenhouse, wouldn't it be money in our pocket to buy a few sash and put our cans of extracted honey under them? The ground would warm up during the day so as to retain a great deal of heat during the night.

—Ed.]



IRISH BEE JOURNAL.

This fine paper maintains its original interest, and is full of "snap and ginger" all through. In the November issue I find the following, presumably from the pen of the editor, Mr. J. G. Digges, and it is well worth reading, even if it does contain some old ideas.

Put one pint of water in a saucepan or pot on the fire until the water becomes hot. Then stir in 6 lbs. of pure refined cane sugar (lump or white crystals); dissolve the sugar before the water boils. Remember that, if you allow the sugar to burn, through lack of stirring, it will never set. Burnt sugar is injurious to bees in winter time. When it boils, and begins to thicken, drop a little on a cold plate; and if this is soft and sticky, so that you can with your fingers make it into a soft ball, it is right. If it is too soft, boil a little longer. Remove the pot from the fire and stir in a little more than half a tablespoonful of naph-hol-beta solution. Place the pot in a vessel of cold water, and stir the contents during the cooling process. When the candy begins to turn white, and to set, pour it into saucers lined with paper. Let it remain for half an hour, then gently slip a cake under the sheet of each hive, so that the candy will be directly over the clustering bees. Renew the supply of candy as required. Pressure of the fingers on the sheet will show when the candy has been used.

A neater plan for supplying the candy, and one that will repay the little extra trouble, where only a few hives have to be dealt with, may be adopted thus: Procure for each hive a small shallow box of wood or cardboard. Remove the lid, and cut in the bottom, a hole to correspond with the hole in the sheet that is on the frames. Put piece of newspaper over the hole in the bottom of the box, and fill up with candy. Now set an empty section-crate on the sheet that covers the frames. Pull the paper off the candy and set the box on the sheet, so that the bees may have access to the candy right over the cluster. Place a piece of glass on

the box. Fill up the crate with warm stuff such as tailors' cuttings, cork dust, or chaff. Pack all around it with cloth or newspaper, and set the usual quilts on top. Thus there will be no escape of heat. The candy will be in the warmest part of the hive, and the glass will enable you to see when a further supply of food becomes necessary.

EL COLMENERO ESPAÑOL.

As a preface to his remarks on the general condition of bee-keeping throughout the world at the present time, the editor says:

In order to form an approximate idea of the present state of apiculture throughout the world, it will be necessary to speak of but few countries; for to speak of all would be a wearisome task. However, it should be observed in general that in most countries not only individual persons, but different organizations, and, above all, governments, attach great importance to the development of bee keeping, and, in consequence, endeavor by all means in their reach to favor its propagation. In some governing bodies the representatives engage with interest in measures for its extension, and for doing away with those causes which more or less injure its development.

The editor then casts a cursory glance at the United States as follows:

This is, without any doubt, the nation that marches at the head of the apicultural movement of the entire world. It counts its bee-keepers by the hundreds of thousands, and among them a great number of the fair sex, who distinguish themselves by their special skill.

This great people, marching with gigantic steps at the head of humanity and which is to-day the emporium of civilization and progress, can by no manner of means remain in the rear on apicultural questions.

The government, assisted by the several States, has established many schools where technical and practical bee-keeping are studied.

According to statistics, there are in the United States over 600 bee-keepers who have each above 50 colonies. Capt. J. E. Hetherington leads with about 3000 stands.

The honey annually produced in the United States is estimated to be worth \$18,000,000. Bee journals and associations are numerous; exhibits of honey are held every year.

Among the many manufacturers of hives is The A. I. Root Co., employing about 250 hands.

In short, the apicultural movement there is at high-water mark, and no comparison can be made of that nation with any other. Old-fashioned hives are almost entirely unknown there.

The situation in other countries will be considered in our next.

REVUE INTERNATIONALE.

The issue for October starts out by saying, "The readers of this journal are informed that it will cease to appear at the end of the current year. Its manager has carried the burden for 25 years, and is getting old. He feels that the time has come for him to retire and give place to younger ones." That removes a star of the first magnitude from the firmament, for Mr. Bertrand has been giving us not only one of the best-printed bee-journals in the whole world, but one of the best-edited ones as well. It is a pity the publication can not continue, even if the editor does retire. Mr. Charles Dadant, in the preface to his book, Langstroth Revised, French edition, has this to say of Mr. Bertrand from a literary standpoint:

I owe him especially my most sincere thanks for not shrinking from the immense task of revising my manuscript for correcting it, and supervising its publication. If the reader finds any thing of interest in reading and studying this book, I hope he will render thanks to my friend Edouard Bertrand; for without

him and the disinterested assistance he has so generously afforded me, this publication would have been postponed indefinitely, not to say for ever.



WINTER PASSAGES IN COMBS NOT NECESSARY.

"Good evening, Mr. Doolittle. Came over this evening to have a little talk with you, as the days are getting so short that I did not want to hinder you during the daylight. What I wish to know is whether bees ever freeze or not."

"Of course, if a single bee is exposed to a freezing temperature, that bee freezes. What is there to hinder?"

"Well, that is not just what I wished to know. It is like this: This morning I found quite a few bees away from the main cluster, in my hives, dead, and a neighbor tells me that they were frozen to death. Was he right?"

"In reply to this question let me give you a little of my experience and observation during the past third of a century."

"That's right. That is just what I want you to do."

"As fall approaches, if we minutely examine a colony of bees we shall find that the activity manifested during the spring and summer in the interior of the hive becomes less and less, so that by the middle of October, in this latitude, all brood rearing ceases, and the bees have become partially dormant; still, so far they have not packed themselves away for winter, in a snug cluster, or that compact shape in which we find them later on. Every opportunity given by a warm day is improved to void the fæces, so the bees may be prepared for a long cold spell when such occurs. As the weather grows colder, the bees contract their cluster, many packing themselves away in the cells till the smallest possible space is occupied by them, and thus the requisite warmth is secured to keep them alive when the mercury sinks below zero. In this contraction of bees, at certain times many of them are left singly, or in little clusters of from three, five, ten, or twenty-five, which do not recede with the main cluster, and thus are chilled where they are; and if the weather becomes cold enough they may be frozen, thus losing to the cluster that number of bees."

"That corresponds exactly with my neighbor's talk; and he said if I would make holes through the center of the combs in the fall, such would obviate this trouble. Is he right in this also?"

"In this part your neighbor is but reit-

erating the reason formerly given, which was, that, owing to the movable frames, no cross-sticks were used in these hives, as was the case with box hives, and hence the bees left no holes in the center of the combs as they did around the cross-sticks, this compelling the bees to pass over and around combs of cold honey to keep pace with the receding cluster, instead of passing through the center of the combs to the next range, which was more nearly filled with bees. In thus passing around, many became stiffened and were caught by the cold, which might have been saved if the holes had been provided in the center of the combs for them to pass through."

"Was not this a good argument?"

"It seemed so to many, and to this end some of the frame hives were provided with a thick shaving of wood, bent to form a circle about an inch in diameter, which was suspended from the top-bar by means of a little strip of tin, supposing that this would effectually secure a passageway for the bees."

"Did it not do the same?"

"It generally did during the first season when a new swarm was put in one of these hives; but only a short time elapsed before it became apparent that, during a good yield of honey, this shaving would be filled with comb and honey, and hence the passageways were cut off. Finding this to be the case, the practice of cutting holes through the combs each fall, by various means, was resorted to, only to be filled up the following summer, when, as winter approached, the process had to be repeated."

"Did you try these plans?"

"Most assuredly I did, and believed I was doing the right thing; but after trying all of them it soon became apparent to me that the reason assigned as the cause of the death of the bees was not the real trouble, for I found, after repeated examinations, that bees would stay and die within half an inch of these holes, when it would appear that they could pass through these passages just as well as not; and in some instances they would stay and die right in and on the very edge of these holes."

"That was strange, certainly."

"Yes. And I also discovered that, when the weather was cloudy, cool, and rainy for several weeks before it became severely cold, this loss was apparently much greater than when a clear warm day occurred immediately before a severe cold spell."

"Why should this be so?"

"By the number of bees that were found on boards, the edges of the hives, fences, etc., dull and stupid, after such a fine day, I concluded that these were the same bees that would have been found dead by not following the cluster, had not a warm day occurred for them to leave the hive to die; hence I said that the loss was apparently greater when no such day occurred, for many more bees were seen outside the cluster dead, as they had no chance to go out of the hive to die. Since then I have watched very closely, and

from these years of watching I see no reason for changing the conclusion that I formed at that time."

"But don't you find little knots of dead bees away from the main cluster after each warm spell during the winter?"

"After the bees once get thoroughly clustered I do not see this loss occurring to any such extent after each warm spell, and but little after a very mild fall; and for the reasons I have given you, I now pay no attention to passageways through the combs for bees, nor have I done so for the past twelve years."

"I suppose it would do no harm for me to try a few with holes through the combs?"

"No, not in the least. That is what every one should do where there is a point of dispute. Try the thing for yourself, and when, from these trials, you become convinced as to the right, adhere to the right and let your light regarding the right shine out to others."

"Well, I must be going now as I see it is nearly nine o'clock."

"Just a word or two before you go, so you can understand this wintering matter a little better: After the cluster of bees has become fully settled for winter, and this loss of old bees has passed away, a colony will lose but few bees for six weeks or two months, and will remain quiet. If at this time a warm day occurs so they can fly freely they again cluster back quietly and remain so about the same length of time, when they again desire to fly; and if such a chance occurs all will go well, and the bees will winter well. Thus we have a colony in a normal condition, and all the cold ever obtained in any portion of the world where bees can be kept with profit (occurring during this period between flights) will not freeze or materially injure them if they have plenty of good stores within easy reach of them."

"Oh, yes! Just one question more before I go. Did you notice Dr. Miller's calling attention to an omission of yours, by your not telling us when you took the dummies out, where you hived a swarm on half-inch starters, and what you did after taking the dummies out by way of supplying their places?"

"Yes, I noticed what Bro. Miller said on page 911, and thank him for calling attention to the matter. I have been so driven this year that I have left undone many things I ought to have done; and the leaving-out of that part was one of the 'left' things. The dummies are kept in till the close of the white-honey harvest, when they are taken out and the hive filled with drawn or full combs, which the bees generally fill with dark honey to an extent sufficient for the bees to winter on."

"Where do you get these drawn combs?"

"By the process of shaken or driven swarms, now in use by very many of our best apiarists, this matter is very easy. When the swarm is made we have the combs of brood and honey after being freed from

the bees. I place these combs of brood, etc., on a weak colony, and at the next making of swarms another hive of these beeless combs is put on, till in this way I often have three, four, and sometimes five hives of comb, brood, and honey on one of these weak colonies, or on one which was weak to start with, but not weak in bees now that the most of the brood has emerged. When the dummies are removed these tiered-up combs are just the ones which are used to fill out the hive; or, in other words, used to take the place of the dummies."

"Glad I asked you. It is all plain to me now."



WE have on hand quite a number of manuscripts on the subject of killing skunks. We have already given place to several, two of them in this issue, and so we think we have, perhaps, given enough space to this subject for the present.

A GEORGIA correspondent of the *Southland Queen* takes Mr. J. E. Chambers sharply to task for asserting that no one but a fool will use wire in brood-frames. He says if this is true, "there is a big lot of us fools." He then adds, "Why, combs without wire will break out and ruin enough in one season to pay for wire, time, etc., enough to justify the bee-keeper in putting in half of his time in wiring his frames."

SELF-SPACING OR LOOSE FRAMES.

MR. HUTCHINSON, in the *Review*, finds that there is a feeling against self-spacing frames, particularly the Hoffman. He himself wants nothing better than the old-style Langstroth, with $\frac{3}{8}$ top-bar. His experience is quite different from my own, for most of the people I run across in my travels much prefer the Hoffman; and it seems to me I can do twice the work with a non-burr-comb self-spacing frame that I can with the ordinary thin and narrow top-bar Langstroth that will be all matted up with wax braces. The leading supply manufacturers of the country furnish the old-style Langstroth, thick-top Langstroth, the Hoffman, and closed-end frames. The purchaser can have any one of them as an option. I do not know how the trade of other manufacturers runs, but ours runs almost exclusively to the Hoffman. Fearing that it might be too much of a good thing, we attempted to steer the trade, two years ago, toward a thick-top unspaced frame, but it would have none of them. I have talked with some large extracted honey producers

in the West and South, and they say they much prefer the Hoffman; and yet it is perfectly plain that another man might run across another class of people who would regard them as nothing but nuisances. This thing must be borne in mind, that the character of propolis varies in different localities; and I am free to admit that in Dr. Miller's location I should prefer, as does he, a metal-spaced frame.

COUNTING THE COST.

A COLORADO bee-supply factory has started up, with every assurance of success; and there are some other little shops starting elsewhere, and we hereby offer to them the hand of fellowship. This is right and proper. The field of the United States is very broad, and so far the manufacturers are not complaining on account of a want of trade. In all of our years of experience we have had all we could do; and we have wished most severely at times that we did not have so much business. But the new concern that launches out into making supplies should not figure on the mere shop cost, but on a ten-per-cent depreciation of machinery, a fair allowance for capital invested, and general expense. One who essays to make bee-supplies, or any thing else, in fact, for the public, will find, if he desires to make both ends meet, and make a little profit, that he must add *at least* 50 per cent to shop cost. By "shop cost" I mean material and labor. It is a rule to add more than this—even 100 per cent in most lines of manufacture—to cover bad accounts, goods out of date that will not sell; advertising, office help, accidents, and, as I said, insurance, taxes, interest, and depreciation. There have been scores of little factories started, but most of them have gone out of business, for the simple reason that they have not added to their item of cost what is usually termed "overhead expense"—an item that can not be avoided. Perhaps this advice may seem gratuitous to some. Gratuitous or not, if they will heed it, it will make all the difference between success and failure.

THE CINCINNATI CONVENTION; A FOUL-BROOD BILL FOR OHIO.

It was my pleasure to attend a meeting of the Hamilton Co. Bee-keepers' Association, that comprises a membership of fifty or sixty, all told, in the vicinity of Cincinnati. The Hamilton Co. people are very much in earnest regarding the desirability of securing a foul-brood law that will protect us against negligent and incompetent bee-men, who, unless there is a law to prevent, will allow it to spread among those of their neighbors who are more progressive. The first draft of the bill was presented by Mr. J. E. Painter, at the convention, in the presence of representatives Wayne and Herrick, both of whom promised their support, and offered valuable suggestions. Mr. Herrick was formerly a bee-keeper, and fully

understands the urgency of the measure from a bee keeper's standpoint. He will probably father the bill.

The meeting was not large, but very enthusiastic, and it is apparent that the solid support of the Hamilton Co. delegation may be expected in the next general assembly. The proposed draft of the bill is now in the hands of the committee appointed by the Hamilton Co. Association; and as soon as it is thoroughly digested I hope to present it to our readers. It provides for county inspection on about the same lines as prescribed in the excellent law now in force in Colorado. It is very explicit, and seems to cover every possible contingency; and for conditions that exist in Ohio it is probably better than a law that provides for only one inspector for the whole State. I have been opposed to county foul-brood laws; but the arguments that were presented in favor of a measure like that in Colorado convinced me that it would be a good one for Ohio.

It was not deemed wise to effect a State organization, but, rather, that the several counties where bee-keeping is most prominent be organized, and that they submit to the next legislature suitable resolutions or memorials, signifying the urgent need of foul-brood legislation in Ohio. GLEANINGS is anxious to get several counties organized on the New York plan. With several good working counties we could later on, if necessary, effect an affiliation of the several organizations, making what might be called a State organization such as is in practical operation in New York.

AN AUTOMATIC CLOCKWORK SMOKER.

SOME time ago Dr. Miller referred to the fact in one of his Straws that there was a smoker made in Germany that was operated by clockwork in connection with a little mechanical fan or blower. We immediately put ourselves in communication with the inventor or manufacturer, and now have before us one of these smokers. It is the invention of Mr. Joseph Künig, a German jeweler, and was patented in the United States, Dec. 31, 1901. The accompanying illustrations are made direct from those in the patent specifications, and show fairly well the general details and design of the smoker. The lower portion of it, referred to in the illustration, Fig. 1, contains the clockwork and blower. The clock is wound up at the key hole S. A lever, M, releases a little clutch which allows the fan, or blower, to spin like a top. As soon as enough smoke is blown, the power is shut off by pushing the lever back. When more wind (or smoke) is wanted, the lever is shoved upward, and again a blast of air is started through the stove. The whole arrangement is quite ingenious, and is thoroughly well made. It takes about a minute to wind it, and about twenty minutes for the clock to run down if operated continuously. In ordinary practice in the yard, once winding would last half a day.

So far the arrangement seems to be very unique. But what is the defect, if any? Clockwork sufficiently large and powerful to send out a blast of smoke equal to that sent out by a common smoker would be awkward and heavy. This mechanical smoker sends out a very light blast of air—so slight that it can scarcely be felt. The smoke can, however, be sent several inches from the nozzle, and perhaps it is far enough for a good many operations. It weighs, however, about three times as much as the average smoker, and the fuel capacity is only about a tenth of that of an ordinary standard bellows smoker. It would do very well for a small number of colonies; but for the average American apiarist I doubt if it would give general satisfaction. The cost of it will be at least five times as much as that of a common bellows smoker, I should judge from its general construction.

Fig. 1.

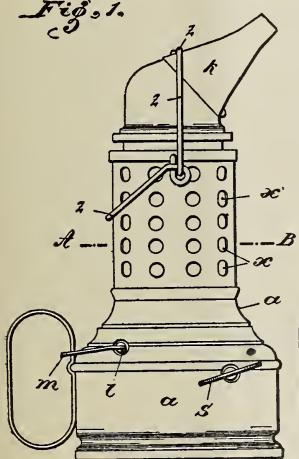
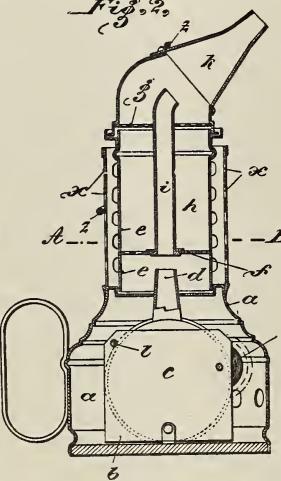


Fig. 2.



Its cost, weight, weak blast, and the possibility of the train of gears and little blower getting out of order, would prevent its having a very large sale in America. However, I note that there are a good many testimonials in its favor, from German bee-men.

The general design of the smoker shows a surprising amount of inventive ingenuity. It must have taken an expensive set of dies for making it. Every part seems to be stamped out to a certain definite shape that could be used for no other purpose than this particular device; but it is doubtful whether American manufacturers would be willing to undertake the manufacture of any thing so elaborate and expensive as this.

AIKIN'S PAPER PACKAGE FOR CANDIED HONEY.

ELSEWHERE in this issue we illustrate two of Aikin's latest candied-honey packages, the 10 lb. size. The honey came wrapped in old newspapers packed in an ordinary cracker-barrel and was received in splendid condition all the way from Colorado.

In order to give one a comparative impression of the size of these 10-lb. packages, I instructed our artist to put a man's hat on top, and this he did, only it's a cap.

To the lover of good honey—those who love to eat it in considerable quantities—these 10 lb. sizes will prove to be very popular. If one desires only a little dab, a 10-cent bottle will be sufficient; but if he has honey on the table every day, he will of course buy not less than 10 lbs. The Aikin package is so cheap that, after he puts down his money, he is buying only honey—not a tin can, tin pail, nor a bottle that is of little or no use to him after the honey is out.

But candied honey is always rather unpleasant to handle in a tin can. A good many like to eat it in the solidified state, and it is no easy job to get it out from an ordinary bottle or can. The other day I

called for some candied honey, and my wife remarked that I would have to get it out of the can, for she had given up in despair. So she brought out a big Mason jar and told me to help myself. I inserted a case-knife, but the honey would slip off after I had pried it loose. I next called for a big iron spoon. But I bent its handle in fantastic shapes, and succeeded in getting only little chunks at a time. I next tried a thin-bladed butcher-knife. This was somewhat better. I then said to Mrs. R., "We must have some of that Aikin honey that we can peel like a bologna sausage;" and now there is over at our house a 10-lb. honey bologna that is a pleasure to handle and eat in great mealy chunks. Just peel the paper down one side, take a case-knife,

and slice off a chunk just as you would cut off so much cheese. Talk about convenience and delicious sweetness! the best comb honey I ever saw is left away in the shade.

Perhaps I am peculiar; but I rather like candied honey; and extracted of any kind I prefer to comb. I do not like to chew gobs of wax if I want to eat honey; and that is the reason why extracted, either liquid or candied, has my preference. I do not know why, but in the winter time I have a great liking for the solid kind; and that is why the Aikin package fills a long-felt want at our house.

But I note that the last lot of Aikin honey came in bags that had not been previously paraffined. Whether Mr. Aikin has found the waxing unnecessary or not, I can not say; but I should feel very sure that our Eastern honey would at least require coated bags. And that leads me to say that I doubt very much whether Eastern honey, as a rule, should be put up in paper unless it is used very soon after it gets into the hands of the producer. While in the possession of the dealer it should be kept in the

cold, otherwise it will have a tendency to leak or ooze out through the paper. Colorado honey, from its pronounced tendency to granulate, would remain solid until clear up into warm weather. But I doubt very much whether Eastern candied honey will do so.

The reading on these packages is not very plain, and so I will reproduce the general directions, which are as follows:

The candied condition of this honey is proof of its purity. If preferred liquid, put it into a pail, and the pail in hot water—not much hotter than you can bear your hand in. *Never let it boil.* Boiling spoils the honey flavor.

I wish to call attention to the words made emphatic, *Never let it boil*, and further attention to the very excellent suggestion of putting honey to be liquefied "into a pail of water that is not much hotter than you can bear your hand in." Many make the mistake of getting the water too hot, and thereby very much impairing the flavor. The other day my wife, in getting the last remnants of candied honey out of a glass jar, put it into water so hot that the flavor of the honey was appreciably affected. If the wife of a bee journal editor will commit such an unpardonable sin, is it not probable that hundreds of consumers would do the same thing? They can not have the fact put before them too strongly, that the water should not be much warmer "than you can bear the hand in;" and let me tell you it will be far better to put the pail into lukewarm water and let it stand for several days, or until it comes to a liquid condition. Such honey will be much finer than if it be liquefied in a few hours; and slow liquefying will keep the honey in a liquid condition longer than if it is brought to the melting-point in a short time.

There is quite a trade starting up in bags for candied honey; but let the Eastern bee-keepers be careful to see that honey put up in them is taken care of before summer weather comes. The Aikin honey or any other equally fine will probably be all used up before it can melt or run over the shelves.

I have in my hands a sample of the ten-pound size. It is as hard as a block of wood. Indeed, if I wanted to knock a burglar down—knock him into insensibility—I think I would lam at him one of these packages, if a brickbat were not in sight.

THE LOS ANGELES CONVENTION, AS REPORTED BY THE AMERICAN BEE JOURNAL;

J. S. HARBISON, J. G. CORY,
A. I. ROOT.

THE reports of the talks from bee-veterans, above mentioned, in the issues of the *Am. Bee Journal* for Oct. 29, Nov. 5, Nov. 12, ought to be worth a dollar to every bee-keeper in the land, especially to any one who has any regard for what happened in the earlier days of our industry. I once thought of copying from the "Old Reliable" the talks from the above three; but so many of the readers of *GLEANINGS* take the

Am. Bee Journal also, it would hardly be fair to them to give the same story twice. Another thing, it would greatly crowd the pages of our own journal when we have already more valuable articles than we can find room for. There are some mistakes, however, probably made by the stenographer, that I wish to mention. On page 694 Mr. Samuel Wagner is credited with making the first machine with rollers for making comb foundation. Instead of giving Wagner the credit it should have been *Washburn*. Mr. Alva Washburn, of Medina, Ohio, made the first pair of rolls the world ever saw, for rolling out comb foundation. He did this while working for me by the day; but, notwithstanding, the credit is due to him more than to anybody else for having carried the operation through its experimental stage, and making it a practical success.

On the same page we are told that our good friend T. F. Bingham, of smoker fame, has "hives of his own." It should read, "a *hive* of his own." It would seem very strange if an old bee-keeper like friend Bingham did not have some "hives," more or less, of his own.

On the same page, lower down, we are told the daily papers spoke about a "Quaker chap down in Ohio." The word *Quaker* should be *queer*. I have always been more or less *queer* to the outside world, but I have never been a Quaker.

On the next page we read, "The sorrow that covers a man's grave is oftentimes the poultice that draws out his virtues." The word *sorrow* should be *sod*. I used the old proverb in speaking of the death of T. G. Newman.

On the same page, toward the close, after commenting on the friendly visit that Mr. Langstroth had with Moses Quinby, I intended to say something as follows:

After pleading so earnestly with father Langstroth to go and have a friendly visit with Mr. Quinby, before death took one or both away, I felt a good deal discouraged. I probably said to Mrs. Root, "I shall have to give it up; it does not seem to be of any use." Very likely, just then and there I knelt down and prayed that the Holy Spirit might do what I in my feeble strength had failed to do. Now, I can not remember that I did this; but so often, when discouraged in trying to move human hearts, I have done this very thing, I think it is quite likely I did so. I know this: When I went into his room in the morning I was greatly astonished to find my prayers were answered. As there is a very great moral in this simple little story I think I will repeat the rest of it here. Father Langstroth was a little late in getting up. I knocked at the door, and then went into his room. Without saying a word he pulled his watch out from under his pillow, and handed it to me asking me to listen to its ticking. As I was a jeweler by trade at that time, I supposed, of course, something was the matter with his watch. Then he said, "Friend Root,

what does that watch say to you. I began to laugh, and said, "It simply says tick, tick, tick. What else should it say?" Then came the unexpected and wonderful reply that I believe was characteristic of father Langstroth. He said, "Perhaps it says to you only tick, tick, tick, but to me it has been saying 'Quinby, Quinby, Quinby,' all night long; and I am afraid the watch will keep on saying 'Quinby, Quinby, Quinby,' until I start down there and shake hands with father Quinby, and we two become friends." He started off for York State at once. In a few days he came back and said, "Mr. Root, I have had one of the best and pleasantest visits I ever had in my life. We talked things over, and he did not find any fault with me, and I didn't find any fault with him, and we are going to be friends as long as God lets us live." And so they were; and the bee-keeping world can all rejoice that, notwithstanding the misunderstandings between those two great pioneers, both of their lives closed with the kindest feelings and relations one toward the other. There is encouragement here for those who have become discouraged, perhaps, in their attempts to act as peacemakers. I said in my talk in Los Angeles, "There may be some people here to-night whose watches, if they do not say 'Quinby, Quinby, Quinby,' may be saying something else, and will continue to say it until they get up and do the right thing as Mr. Langstroth did."

Let me say once more, if there is a reader of this journal anywhere on the face of the earth who has not had the three copies mentioned, of the *American Bee Journal*, send at once to Bro. York for them. If you do not wish to subscribe for a year, you can have it for three months for 25 cents; and I am sure Mr. York will send the three copies I have mentioned, for a dime. If he will not, you tell him to write to me and I will pay the balance.—A. I. R.

PROFITS IN BEE-KEEPING; OPINIONS OF
THE EDITORS OF THE AMERICAN BEE
JOURNAL AND THE BEE-KEEP-
ERS' REVIEW.

Two editorials have lately appeared in two of the leading bee-journals of the United States, which should attract more than passing attention. First we will give the editorial by Mr. York, which is as follows:

The following is a sample of some of the correspondence that has come to this office lately and within the past few years:

MR. YORK:—I believe the common bee-keeper is the milk-cow of the big supply-factories, and the commercial houses of the big cities. I can see no profit in bee-keeping. And it looks very funny when factories advertise in bee-papers that the bee-keepers should borrow money and send it to the factory to get goods early. Those people like to get all the money out of the bee-keepers, and let the latter have only the bee-stings in the summer time.

I believe there is a great big humbug in comb foundation. It will stand the heat of an ice-box but not the heat of a hive full of bees. It must be more than half profit. Of course, there is more profit in that kind of foundation. I wouldn't use any foundation without wiring the frames.

BAPTIST BECK.

Being entirely out of the bee-supply business now, we feel that we can offer a few comments on Mr. Beck's letter without being accused of having "an ax to grind."

In the first place, we learned enough about the bee-supply business, while we were in it, to know that there is no fortune in it for any one, be he manufacturer or dealer. Why, if the profits in making and handling bee-supplies were equal to those in many other lines, bee-keepers would be compelled to pay about double the present retail prices for the supplies they use in their apiaries. We feel that we know something about this matter, for we are in a city where there is a great variety of business done, and we know that the profits in a number of other lines of trade are far in excess of those connected with handling bee-supplies and honey.

As to the intimation of Mr. Beck, that comb foundation is adulterated, we can only say that the bulk of the comb foundation sold to-day is made by the Weed process, and the fact is that the sheeting method of that process will not work adulterated wax. So that idea of Mr. Beck is entirely wrong. Almost any bee-keeper knows that on a very hot summer day, with a heavy swarm of bees in a hive not ventilated, any kind of comb foundation will likely melt down if not wired in the frames.

As to there being no profit in the bee-business at the present price of honey, we suppose that can also be said of any other farm products at different times during a series of years. But we venture to say that there are a good many bee-keepers who would never complain at all, only guarantee them a fair crop of honey every year. They will take care of the price.

The fact is, there has never been a general oversupply of honey in this country. There may often be more produced in any one locality than can be used there during the year; but there are always many other places where not nearly enough has been produced to supply the demand. What should be done is to even up the surplus crop—distribute it more evenly throughout the country. Then a better price could be secured.

Honey will not usually sell itself, any more than it will take unto itself legs and walk off. The honey-producer must make some effort to dispose of his crop. But he must see to it that it is put up in the best possible shape for the market—properly graded, and neat and clean. He then needs to watch the markets—learn the supply and demand, as far as possible.

In our experience as a bee-supply dealer we have not found the bright pushing, up-to-date bee-keepers objecting to the ruling prices on bee-supplies. We have come in contact with a great variety of bee-keepers, too, in what was our bee-supply department. No one hears of a Coggshall, a Dr. Miller, a France, a Brodebeck, or any other large bee-keepers complaining of high prices of bee-supplies. They have done business enough to know that, when the expenses connected with manufacturing and handling bee-supplies are considered, the present prices are none too high. But, actually, there are a few bee-keepers who think \$1.00 is a high price for 52 copies of the *American Bee Journal*! But we doubt if any one can afford to keep bees at all if he can not afford to pay a dollar for a bee-paper!

As to the suggestion that bee-keepers borrow money and buy supplies in the fall, that is all right. It would in some cases be a saving to the bee-keeper to do that. And for so doing, an early-order discount is offered by some manufacturers. But, of course, no one need borrow money or buy supplies in the fall just because some bee-supply manufacturer suggests that he do so.

In conclusion, we want to say that we don't know of any bee-supply dealer or honey-dealer who is getting rich in either business. Neither do we know of any honey-producer who is getting rich. Bee-keeping is not a get-rich-at-it business; neither is the bee-supply business nor the bee-journal business. But all are businesses in which a fair honest living can be made by hard work, and by "keeping everlastingly at it."

Here is the editorial from the pen of Mr. Hutchinson:

There has been a very sharp advance in the price of bee-supplies—notably in hives. As a result, if there ever was a time when it might be profitable for some bee-keepers to make their own hives it is now. Nearly all bee-keepers are located within reach of a planing-mill, and at such a mill the bottom-boards, covers, and bodies of hives can certainly be cut out more cheaply than they can be bought of some supply manufacturer—to say nothing of the freight. A beehive does not need a lot of fancy fixings. A plain board for both bottom and cover, with cleats at the ends to prevent warping, is all right for a large majority of localities. It is exactly what I should choose for this locality. Some $\frac{3}{4}$ strips sawed from $\frac{1}{2}$ lumber can be tacked around three sides of the bottom-board

(on top, at the edges) to raise the hive from the bottom-board, and just the plainest kind of plain joint at the corners of the hive, just as a common box is nailed together, is all right for the body of the hive. A plain rabbet for the frames to hang in is all right here. Such a hive as that can be cut out at any planing-mill, or may be cut out with a foot-power saw, and the veriest tyro can nail it up and paint it.

As for frames I ask for nothing better—in fact, prefer simple all-wood frames, the stuff cut from the edge of a $\frac{1}{2}$ board, the end-bars and bottom bars being $\frac{3}{8}$ thick and the top-bar $\frac{1}{2}$ inch thick, the pieces being nailed together with the right size of cement-coated nails. Such frames all nailed up ought not to cost over \$1.00 a hundred.

With the prices in view that bee-hives are likely to reach, it will be well for bee-keepers to be rigging up or buying a buzz saw, building a horse power, putting up a windmill, or buying a gasoline engine. Foot power will answer if there are not too many hives to saw out.

These appeared almost simultaneously, and both are the free expressions of the editors themselves. There is no direct conflict of opinion, and yet in one way there is. It would almost look as if Mr. York had written this editorial from the standpoint of the supply-manufacturer; but the fact that he sold out his supply business because there was no great money in it, but an immense amount of hard work and small profits, puts him in a position to know what he is talking about.

As a supply-manufacturer, and editor of a bee-paper, perhaps I should not say anything on this question, for I realize that whatever I say is liable to be misconstrued as an opinion based on the almighty dollar; but I will try to give the facts as I know them from the standpoint of the manufacturer.

Part of what Mr. Hutchinson says is true. There are times and places where some bee-keepers can go to their nearest planing-mills and get their hives made, and perhaps save some money. This is conceded; but in the great majority of cases it will be a money-losing venture, I think. The large manufacturer of bee-hives can, as a rule, supply hives ready to put together in lots of 100 at a price equal, or nearly so, to what the bee-keeper would have to pay for the same grade of lumber at the average planing-mill without any work put on it. This seems like a broad statement, but let us see how it works out in fact. Good clear first-class lumber, such as the manufacturers are now putting out in their hives, with few or no knots in, will cost at the planing-mill between \$50 and \$60 per 1000 feet; but we will say it is 5 cents a foot. A standard eight-frame Dovetailed hive has 20 feet of lumber in it, including waste necessary. This makes the lumber in that hive cost \$1.00. At 6 cents a foot it will cost \$1.20. Let us now look at a 1904 catalog. We find that the price of an eight-frame hive in lots of 100 is \$1.25 (for it would be folly for any one to make less than a hundred hives). If a bee-keeper goes to a planing-mill he will pay, then, almost as much for his lumber, or perhaps just as much, as the regular supply-manufacturer would charge for the hive all cut ready to put together *without any waste*. But labor has advanced, and the mill-man will not

charge less than 40 cents an hour, and possibly 60. He is not familiar with hive-making. His saws are coarse-toothed, and his men do not realize the importance of extreme accuracy in hive-making. The hives at the ends will not be lock-cornered, for the mill has no machinery for that purpose. The boards when put together will have to depend entirely on the nails for the strength of the corner.

Perhaps it might be said that the bee-keeper will have to pay freight on his factory hives, but they will be accurately cut and standard in every respect. I have seen a lot of planing-mill hives, and heard some of the bee-keepers who had hives made in that way tell their experiences. The stuff was irregular, the frames would not alternate, they were very rough, and the work was altogether unsatisfactory.

But perhaps some one does not see how a manufacturer can furnish a bee-keeper a complete hive at the bare cost of the lumber in the open market. The supply-manufacturer can buy by the cargo and a comparatively cheap grade of lumber, and cut around the knots. Here is a board that is 12 or 16 feet long. We will say it has four or five knots in it. Out of this board he may be able to cut out of the clear stock two or three ends or two or three sides. There will be several boards that have knots in them. The manufacturer, who is in the business, can use these for a great variety of purposes, and not lose money on them. Some of them will go into the ends of square (can) boxes; others will be used for crating; some will be used for a great variety of purposes too numerous to mention. The bee-keeper who desires to have his hives made in a small way would have to buy clear stock at a price of \$50 or \$60 per 1000, for the planing-mill could not afford to throw away short boards having knots in them, for it would have no use for short knotty boards. Its business is making sash, doors, blinds, door-cases, window-frames, etc., and it can use *only* *long* *stuff*. It will, therefore, be necessary for the bee-keeper to buy clear stock, which is expensive, as he can not afford to have hives with loose knots in that are liable to fall out. He may argue that he can use a cheap grade of lumber; but experience with thousands of customers shows that the average customer won't have such lumber in hives at any price.

It is true there has been a sharp advance in prices on bee-supplies; but the marked advance in lumber, in labor, and in all common commodities, has made this all necessary. Prices on bee-goods have hardly kept pace with other commodities.

As to the Baptist friend in the first quotation, Mr. York might have added that three of the large supply-manufacturers have offered to sell out, as they could make more money in some other business. Beehive making is no sinecure for anybody.

Mr. Hutchinson suggests that, with the prices in view that hives are apt to reach,

it will be well for bee-keepers to rig up a buzz-saw or a horse-power. The old adage, "Don't monkey with a buzz-saw," is good advice for nine men out of ten. There are very few people who have mechanical ingenuity enough to run a buzz-saw without coming to grief. If they do not saw their fingers and maim themselves for life, they may do very bad work. Mr. Hutchinson got up a home-made buzz-saw years ago, because he is a natural genius and a fine mechanic. But where there is one W. Z. H. there are thousands who do not know even the A B C—much less the W Z's.

A short time ago we published a letter from one of our friends who had bought a buzz-saw, thinking he could make his own stuff cheaper. After he got through he took account of the cost, and found his hives cost him nearly or quite twice as much as those he could buy at a factory. He had lost one finger; his hives were poorly made, and all he had was the experience and a lot of supplies that were bound to be a continual annoyance, and a fifty-dollar buzz-saw "for sale cheap."

Now, in taking this view from the standpoint of the manufacturer I have tried to give the exact facts as I happen to know them—not because I am interested in having bee-keepers buy hives of the Root Co., but because I am anxious to have the exact facts come before the public. I know that Mr. Hutchinson will not misconstrue my motives, even if he doesn't see the matter as I do.

IMPORTANT VICTORY FOR THE NATIONAL BEE-KEEPERS' ASSOCIATION.

EARLY last spring Mr. S. W. Kammer, of San Antonio, Texas, was fined \$50 in the corporation court for keeping bees in the city as a nuisance. As he was a member of the National he appealed for assistance, through Udo Toepperwein, a director, who wired the General Manager. Mr. Toepperwein immediately received instructions how to proceed, and was given full charge of the case. An appeal was entered in the county court, wherein it was shown there was no law against keeping bees in the city, and that they could not be declared a public nuisance, as was shown by various court decisions regarding other similar cases. The case was, of course, decided in favor of the bee-keeper.

This is an important decision, as there are several hundred bee-keepers in San Antonio; and important in a larger way because it adds another decision or law precedent to be used effectively in cases of a like nature.

General Manager France says that Director Toepperwein deserves very much credit for the promptness and skill with which he handled this case. As Texas is already a very large honey-producing State, and is bound to be much more important in the future, this early decision in favor of the bee-keeping interests of this great common wealth is highly gratifying.

COMING IN CONTACT WITH THE BEES.

EDITOR HILL, of the *American Bee-keeper*, writing on another matter, incidentally speaks of the value of having the editor of a bee-paper come into actual contact with the bees. He adds:

Note the zest characteristic of editorials written under the inspiration of a day's contact with practical apiculture work, as displayed, for example, in the case of Mr. Root, editor of *GLEANINGS*, occasionally. Whence cometh this distinguishing activity and practical tone which arrests the attention and causes one to feel that he is an eyewitness if not a participant in the operations about which he reads? Whence? From the fountain head, which is the source of knowledge upon which our industry is based, and without which it is improbable, to our mind, that any man is better qualified to direct, than those who have freely imbibed.

Bro. Hill practices what he preaches; for he is quite a man to rub up against bees. His editorials show it.

FOUR-PIECE SECTIONS.

A CORRESPONDENT in the *Bee-keepers' Review* wishes to know where he can get four-piece sections "in perfect shape." The truth of the matter is, manufacturers have not catered to this kind of trade, as the demand has been so light that it did not pay to keep special machinery for the purpose.



EXTRACTING-HOUSE ON WHEELS.

How to Build; its Use, etc.; a Valuable Article.

BY JOHN F. CROWDER.

Having seen inquiries in *GLEANINGS* in regard to a honey-house on wheels, I send you a description of one I have, which has been in operation the sixth season, and which I would find it impossible to do without. The same is built on a goose-neck dray, as you will notice in the cut. The floor of this dray is 4 X 12 feet, with stakeholders around the out edge about every 3 feet, which enabled me to make a detachable house, and from which I may remove the house and use the trucks around the ranch. As I said, the floor of the dray was 4 X 12 feet, so I began from the bottom and raised the walls up 30 inches high; then I made a jog of 14 inches, which makes shelving to set the hauling-boxes on, and any thing else that may be in the way upon the floor; and under this shelving I have for braces cornice-braces, which I have bolted well to uprights, which are 2 X 3's, and this gives me a solid foundation to go on; so from here up it is 6 X 12 and 7 feet high in all. In the rear end is a door 2 1/2 X 6 1/2 which will just admit a four-frame Cowan

extractor nicely. The front end is all boarded up excepting a small window 10×15 inches. The sides are boarded up to one foot above the shelves (which keeps the bees from bothering the honey that might be on the shelves); then I have a yard-wide screen, and at the top an eight-inch board. The sides are made of one-inch ceiling, and the roof of half-inch, all tongued and grooved, which makes a light structure. I have a false floor which rises one foot, and in this space between the floors I have a tank one foot deep and $3\frac{1}{2} \times 4$ square, covered with galvanized cover, over which this false floor is laid, which is made in an L shape, and easily removed. Upon this floor I set my four-frame Cowan extractor, pushed well back in the corner, and fastened to stay for the season; and directly under the faucet of the extractor I have a hole cut to hold a strainer, which is detachable without removing the extractor; consequently I make the honey self-straining; and to my right, as I go in, I have a tank one foot deep, one wide, and three long, on top of which I have two boxes the size of an eight-frame super with perforated zinc bottoms, which are used for uncapping-boxes, which I think are a success; and to the end of this tank, next to the raised floor, I have a two-inch pipe attached which carries all of the drainings from the uncappings to the strainer, and into the main tank from which I draw off the honey from the outside of the house.

Said tank holds about 100 gallons, or an average day's extracting, though I will say right here that my brother and I, in 1899, put 43 cases of honey through it in two days, which was not bad extracting.

On the shelf at the end of the uncapping-tank I have another small tank made "trofting," in which the uncapper puts the combs if he should get ahead of the man at the wheel, in the end of which I have a small pipe which drains into the draining-tank of uncappings the honey that may drip, so you see after I get started I have only to measure up at noon and night. Thus I save lots of time that most bee-keepers have to put in in draining and cleaning up, which is quite a figure when it comes to extracting several apiaries. I have 18 apiaries in all, ranging from 50 to 150 hives, and in three townships. To reach them all we have to drive about 50 miles, so you can readily see that we have to clean up a little more than an apiary a day to get around in time for another start.

Another very handy thing is a wheelbarrow, which many bee-keepers do without. I always take along one about fifteen years old, and has been a great deal of service to us. Brother McCubbin gave it to me in 1893, after he had used it for several years. It has wheeled many a ton of honey, ranging from 5 to 30 tons a season. It is getting old and wrinkled, and crippled in the hind legs. Sometimes I think I will turn Republican and put her on the pension list and retire her from active service.

Some other handy tools are hauling-boxes which I have. These boxes are the same size as the extracting-supers, only one inch deeper; they are lined in the bottom and three inches up the side with tin, and therefore catch whatever honey may drain from the combs, which saves taking off the supers and smearing every thing up with honey, etc.

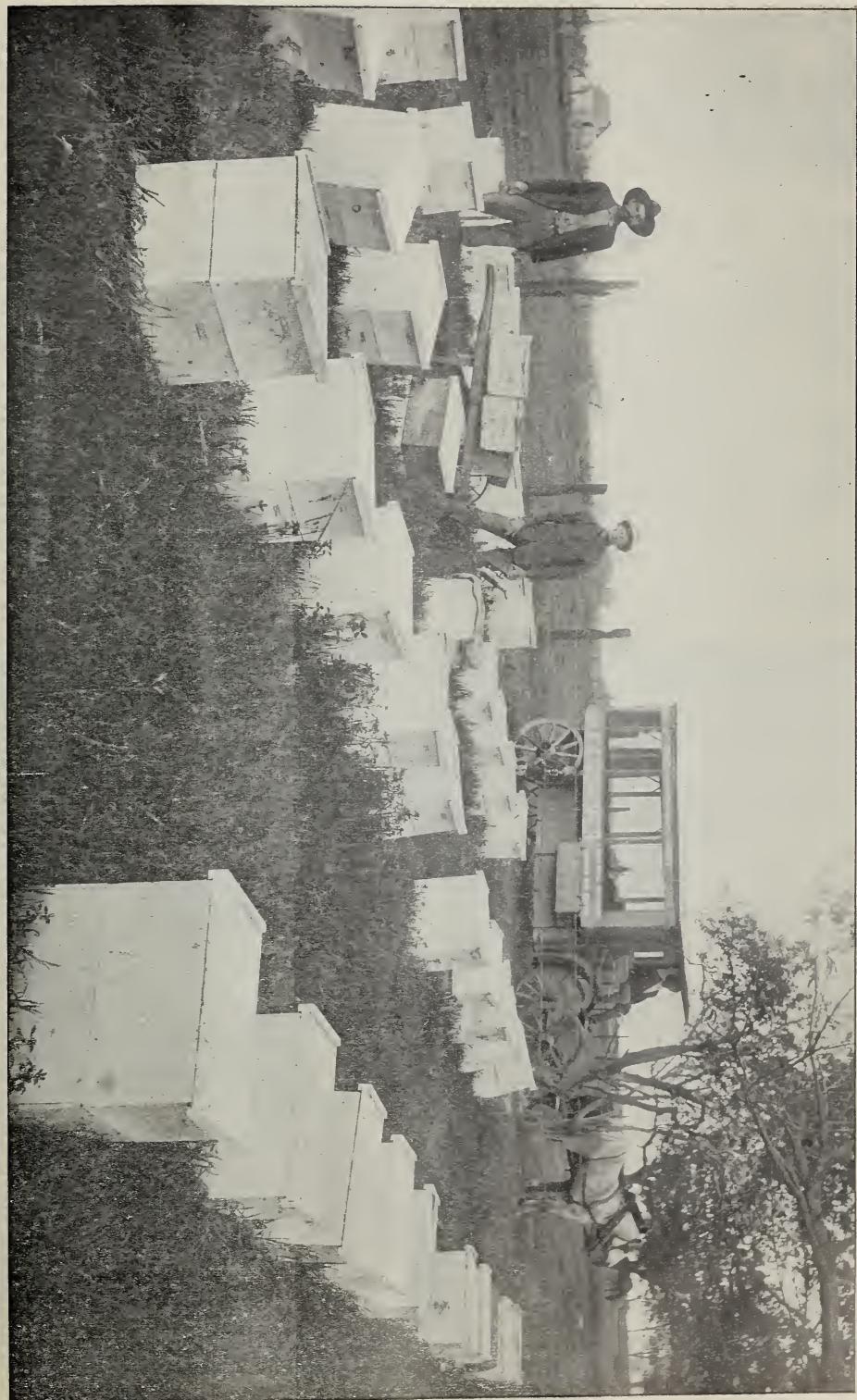
Selma, Cal.

[This scheme of a portable extracting-house, while not entirely new, is carried out by Mr. Crowder in a very unique and practical manner. The plan of having the honey-tank at the lowest point possible in the general structure, and having overhanging shelves just over the rear wheels, is most excellent. All in all, the Crowder wagon is, I believe, by all odds the best of any thing of its kind that has ever been presented to our readers. So excellent is it as a whole that we expect to have it incorporated in the next edition of our A B C of Bee Culture.

In a series of outyards it makes it possible to use only one extractor and outfit, and to carry away the honey as soon as extracted, where it will not be subject to the depredations of thieves. I have always felt as if it was a dangerous practice to leave tons and tons of extracted honey at the outyards. It is an invitation as well as a temptation to persons of low moral standing to help themselves. There is only one extractor to muss up, only one general outfit, and the building is quite large enough, with proper management, to take care of the extractor, the honey extracted, and the operator or operators inside. One does not need a lot of floor space to walk on; indeed, too much floor space is a real detriment, for one is apt to make useless steps over the room to perform his work. With the right kind of system I feel very sure one can make an extracting-house of this kind that will beat the scheme of having several cheap buildings at the several outyards. It will save the first cost, and render necessary the purchase of only one outfit.

There is one thing that friend Crowder has not spoken of; and that is, that, while going to the several yards, the men "inside" the wagon can slick up and get things ready for the next yard. I should suppose that three men could handle the whole outfit nicely. Possibly two might do it—one to take off the combs, and the other to extract and uncap.

I suggest that our extracted-honey men give this article their thoughtful attention. The business of producing extracted honey is getting to be more and more of a science, and our friend Crowder, in my humble opinion, has made a long scientific stride forward. When sections become more scarce and expensive, and when there are pure-food laws in State and nation, extracted honey will to a great extent supplant comb honey, and its production will become more general.—Ed.]



AN EXTRACTING-HOUSE ON WHEELS—SEE OPPOSITE PAGE.



**DR. MILLER'S FURNACE-HEATED CELLAR,
AND HOW THE BEES WINTERED IN IT.**

Dr. C. C. Miller:—I had hoped to hear before this time how your bees wintered in that cellar with the furnace in it, and the temperature as high as 70, where some of the hives stood near the hot-air pipes. I am now getting my bees ready for winter. I have formerly wintered them on their summer stands, with a home-made winter-jacket over them with three inches of planer-shavings around between the hive and the jacket, and six inches of the same material over them, with fairly good success. I have a furnace-room where I could put a large number of the colonies if the high temperature would not make it unfit.

First, can I winter in the furnace-room if I can keep the temperature at 60 or below, provided other conditions are favorable?

Second, will my going into the cellar to attend to the fire in the furnace have a tendency to disturb the bees, either on account of the noise or the light?

Third, will it be necessary to have the bees fastened in with wire cloth to keep them in the hive if the temperature is 60 or nearly so?

A. J. KILGORE.

Bowling Green, O.

[Dr. Miller replies:]

The editor of GLEANINGS was responsible for my having the furnace put in the cellar, but he was not responsible for its being put in so late that the bees could not be cellar'd until Dec. 8, after enduring a temperature of 8 below zero without any subsequent flight.

I may remark, in passing, that that furnace is catalogued, not among the common but among the great blessings of this family. Common courtesy might have demanded that, when Mr. Root was here visiting, he should have acquiesced in existing domestic arrangements; but uncommon courtesy impelled him to insist that we have a furnace, and I here and now record my debt of gratitude for that insisting; for without it the furnace would not yet have materialized.



AIKIN'S TEN-POUND CANDIED-HONEY PACKAGE.—SEE EDITORIALS.

As reported in "Forty Years among the Bees," the bees did not have a fair chance, for they were put in after undergoing considerable confinement, and the winter was unusually warm. To make matters worse, considerable smoke was allowed to escape in the cellar during the first days. One colony was reported as being directly under a hot-air pipe, only three inches below it, a thermometer laid on the hive registering 70 degrees. This was purposely left to await the outcome. Toward spring I went to see how it was faring, and was somewhat surprised to find it dead. Examination showed it had starved to death! The possibility of such a thing had not occurred to me, but I suppose the heat made it consume more stores.

The final result was, that out of 199 colonies put in the cellar only 124 entered upon the harvest. How much better they may do another winter remains to be seen.

Answering your questions in order:

1. I don't know. I think you can. You will have the no small advantage that with that temperature you can have the cellar open for air at night, if not by day, and pure air is an important matter.

2. My experience has been that bees do not suffer from such disturbance to any great degree.

3. No, the bees will not be uneasy enough for that. Even though they should be uneasy, fastening them in would only make a bad matter worse. If a bee becomes diseased so it wants to leave the hive, it is better out than in. If it can not get out, the effort it makes to do so will only stir up the others. By no means think of fastening bees in their hives in winter.

Marengo, Ill.

C. C. MILLER.

THE CACTI OF ARIZONA FOR HONEY.

I am seeking information regarding the practicability of bee keeping with cacti as the honey-producing plants. As nearly as I can find out, the harvest could be made almost perpetual, and the Arizona climate would give easy wintering. Millions of acres could be obtained for a song, and my idea would be to select and plant such cacti as would give the longest harvest. Once planted, Mexican labor would take care of them. I should like to have some idea of what has been done in the way of bonanza bee-farming, and what the profits may be under favorable conditions.

C. R. TINSLEY.

Black Diamond, Ariz., Oct. 15.

[I made a number of inquiries with regard to the feasibility of getting honey from cacti that grow in Arizona, but was assured by the veteran bee-keepers of the Territory that, while some honey is secured from that source, and while some individual plants invariably yield a good big supply of nectar, the amount in the aggregate is too small to give the plants any importance as a source of honey. Of course, I understand there are a great many different varieties;

but I was told that there are no cacti of any description in the Territory that could be ranked as honey-plants.

I do not know of any bonanza in bee-farming unless it is to get in range of unlimited quantities of alfalfa, and usually there are so many bee-keepers to the square mile on such bee-range that there is no very great bonanza to any one of them.—ED.]

A PARTITIONED-OFF CELLAR FOR WINTERING BEES.

Having a furnace in the cellar I have thought it would be too warm for the bees; so I have taken a corner of the cellar and boxed it off. I have put in a floor three feet from the ground, and boxed this tight to the ceiling with tarred paper. My purpose is to make a cold place in one corner of my warm cellar. I have succeeded, I think, in getting it tight. To ventilate this place I have built it around a window that I can darken, and open or close as I see fit for temperature. I purpose to put my dozen colonies in this place. Is such a place all right? Can I ventilate it from the window? It seems to me I can. I think I have overcome any possible dampness, secured the suitable darkness, and also the right temperature. I do not wish to put the bees in just now, for we are having some fine weather, and it may continue for six weeks or more. After reading what was said on p. 928, on "few colonies wintering well in a cellar," I became a little "shaky" about my cellar within a cellar.

L. H. CLARKE.

Gardiner, Me., Nov. 2, 1903.

[The compartment divided off in your cellar, if you design to put in only about a dozen colonies, will give you very satisfactory results providing you can give the bees ventilation at night when the air is cool. It is desirable to keep the temperature between 45 and 50 degrees. If you happen to have a very nice warm day or two in mid-winter, take the bees out and give them a flight, then put them back. This will quiet them quite a little. It would be advisable to give them a flight in the spring, say along in March or April, if you happen to have a warm day so that you can. Bees need more ventilation in the spring than in the fall or mid-winter.—ED.]

NON-SWARMERS, BY SELECTION IN BREEDING, PRODUCE NON-SWARMING QUEENS.

I don't want you and Dr. C. C. Miller to give up chasing the will-o'-the wisp yet. I, too, am hoping that we may breed a strain of bees that will not put in a good share of the best of their time swarming; and I want to encourage you a little.

In my twenty-two years of keeping and studying bees I never saw the swarming fever run so high as it has this year. Some got as high as seven-fold increase. I am not that kind of bee-keeper, but I got an increase of 21 from 32 colonies; but it took

great care to keep them down; for, as the Missourians say, they just swarmed any old way this year. Two of my strongest and best colonies never offered to swarm, but went right along piling up the most beautiful honey. One of the queens is over four years old; and with bees swarming on every side she has never offered to swarm, and her bees have always stored more honey than any that swarmed or were shaken.

Two years ago, when but few bees in this part of the country made any surplus, the bees of this queen gave me 80 lbs. surplus honey, mostly from red clover. They are large three-banded Italians. I have always kept this queen in a ten-frame Dovetailed hive, and put on supers as I found they needed them. I have produced comb honey altogether with them.

I am raising a number of nice queens from my "old prize," as I have called her since the second summer I had her, and will test them thoroughly and report. If the young one which did not swarm this year does not offer to swarm next swarming season I shall also breed from her, for her bees are hard to beat.

J. W. BEAUCHAMP.

Bethany, Mo., Aug. 24.

MOSQUITO HAWKS, AND HOW THEY PREY ON BEES IN FLORIDA.

I note in the Oct. 1st issue of GLEANINGS an inquiry as to damage to bees by mosquito hawks, which are in some localities known as "dragon-flies" or "darning-needles." These insects have been very bad in this locality for the past three years. Last year there was a period of fully a month when none of my bees dared fly. The air was filled with a predatory horde of these insatiable winged monsters, and no bee could get away to the field and home again past them. It took the little fellows some days to realize their danger, and during that time you could hardly find a mosquito hawk that did not clutch a bee. The colonies would, I believe, have been exterminated had it not been for their prudence in quitting work and hiding in the hive. Very early in the morning they could fly about a bit, some days, before the hawks awoke to their daily hunt. Immense numbers of bees must have been eaten. By the middle of June the number of the hawks had so diminished that the bees resumed their labors.

There have been smaller varieties of mosquito hawk through the summer and fall, but so far as I have observed they do not bother the bees. The large variety come occasionally in clouds. At one time last spring my wife called to me that the bees were swarming and flying, out in the horse-lot. It was a cloud of mosquito hawks so dense that at a little distance it would be readily mistaken for a big swarm.

Three years ago a man now in my employ, while cutting posts in the woods located 38 bee-trees at a distance of several

miles from here. Last spring we set out to locate and cut some of them. Out of the 38 but one or two colonies had survived, and hunters and woodsmen give the invasion of the mosquito hawk credit for the destruction of almost all the wild bees in these woods. My own observations lead me to believe that they are right.

We have always had a good many of these pests, but of late years they have come in hordes, and have sometimes appeared to be migrating. Their number from day to day varies a good deal.

W. P. MARSHALL.

Punta Gorda, Fla., Oct. 8.

[If any of our other correspondents have before referred to the awful destructiveness of the mosquito hawks in Florida I had forgotten it. It is quite remarkable, and interesting too, that the bees should keep indoors while their natural enemies were so numerous on the outside. I should have naturally thought they would go to the fields and have been destroyed. Is this instinct or prudence that impelled them to protect themselves in the only way possible—that is, staying at home?—ED.]

YELLOW-JACKETS.

The yellow-jackets are robbing my bees. While the stronger colonies are able to defend themselves against their attacks, they compel the weaker colonies to desert their hives. I have tried to poison them, but this will not answer. Please advise me what to do.

F. W. KNOEGER.

Durango, Colorado.

[If you will excuse me I would suggest that you are mistaken about the yellow-jackets driving your bees out of the hives or doing them any damage, unless it is to worry them a little. We have often seen them buzz around the entrance, perhaps getting in occasionally, but not in sufficient numbers to do any harm. I do not see how you could poison them without poisoning the bees. I would suggest you get some Italian bees if you have not got them already. They are ever so much better to defend themselves from all intruders of all kinds. If your colonies are strong, and have good queens, I do not believe yellow-jackets can do enough harm to amount to much.—ED.]

CHICKENS EATING QUEENS.

Have you ever known chickens to catch and eat the queens? I have seen our Plymouth Rocks catch the drones and eat them; and when a worker-bee would be taking a drone out, the chickens would eat both. The reason for asking the above question is, I had two this year's swarms robbed. The bees did not seem to make any defense at all; and on opening the hives I found no queen nor any worker brood; but there was some drone brood in each hive. Now, for the last two days they have been robbing three old colonies. I have closed the

entrances so that only one bee could get in at a time; placed grass over the entrance, sprayed with water and carbolic acid, but nothing does any good. They make no defense. The yellow-banded bees are the ones that are doing the robbing.

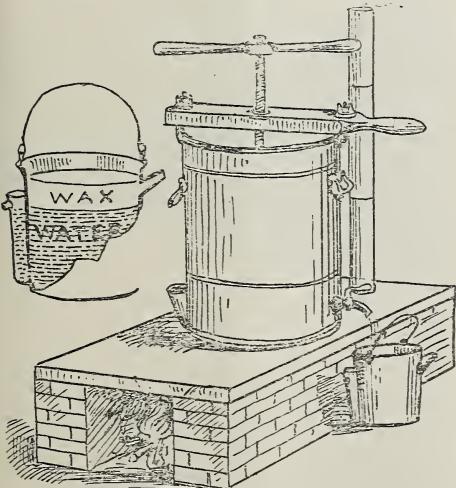
JOSIAH ZIMMERMAN.

Clyde, O., Oct. 9, 1903.

[We have had many reports of chickens eating bees, but I do not remember any specific instances where they were reported to have eaten queens. If they will eat common workers I do not see why they would not pick up a just-returning virgin.—ED.]

HANDLING THE GERMAN WAX-PRESS; A CONVENIENT WAX-SEPARATOR.

As I have learned many a good thing from other bee-keepers through GLEANINGS I wish to contribute something which I found a great help in rendering wax with the German wax-press. I have my press standing on a brick furnace, as per the illustration, the spout of the press discharging into a galvanized water-bucket, which has a tube soldered on one side. This tube is connected with the bottom of said bucket so the water which flows out of the wax-press can rise in the same as it fills



up the bucket together with wax. This tube reaches up about three-fourths of the depth of the bucket where a hole is punched for an overflow when the water reaches that height. On the opposite side of the bucket, about an inch higher than this overflow hole in the tube, is another spout to deliver the wax into any receptacle you might choose to cool your wax in. The benefit derived from this arrangement is that you get your wax almost perfectly free from all impurities, which will settle in the water before leaving the spout. I use eight-inch milk-pans for the wax to cool in, which hold about 5 lbs. of wax. I have melted about 145 lbs. of wax out of

odds and ends and cappings this season, and this arrangement gave me so much satisfaction, working automatically, that I thought it might benefit some one else.

Pomona, Cal.

M. R. KUEHNE.

[An arch or stove outdoors will be much preferable to the good wife's stove in the house. The average man if he attempts to render wax, will be pretty sure to make a mess of it, either on the stove or on the floor. For some time we have contemplated putting out a gasoline-burner that can be applied under the German wax-press so that the machine can be handled anywhere outdoors or in any room where a "boil-over" or a "spill" would do no particular damage. In the mean time it is very easy for a bee-keeper to rig up a simple little arch outdoors which could be pressed into service whenever there is a job of rendering wax.

Your precipitating-pail for separating the wax from water is a very good idea, and perhaps it may be worth while to get up something of this kind and offer it to the public.—ED.]

WIRING FRAMES.

When wiring frames, the tendency of the wire to misbehave itself, and thereby cause inconvenience to the worker, may be obviated almost wholly by stretching it. Taking the spool in one hand, seizing the end of the wire with the pliers, unwinding from the spool about five feet, and then subjecting the wire so unwound to a moderate strain, it will be found to give a little, after which its behavior will show a decided change for the better. With a little practice one can tell nearly enough what length of wire will be required for a frame, and thus be enabled to rid himself of the care of the spool by breaking the requisite length off.

Whitby, Ont., Can. N. O. EASTWOOD.

[We make it a practice to wind our wire over a board that is just half the length of the wire necessary to complete the frame. Two rubber bands are slipped around each end, and with a pair of shears we cut all the strands at one end of the board. The wires will then be exactly the right length.

I do not quite understand why stretching the wire *before* threading it through the frame should make it any better, but I can understand why stretching it *after* it was in the frame might remove the buckling tendency.—ED.]

LEACH'S BOTTOM-BOARD FEEDER.

In your editorial in regard to my feeder, you say it is too expensive. Well, not so much so when you live in a timber country as we do here; besides, we make it in two pieces of six-inch plank, and cleat together; and as for the checking, I just dip the ends in hot beeswax, and cleat across the ends. With ordinary care it will last, I believe, 20 years. However, a cheaper plan would

be to use inch bottom-boards with saw-cuts in, and let them project at the back of the hive. The first one I made, eight years ago, is in use to-day. L. T. LEACH.

Orillia, Ont., Can., Nov. 2.

[The device can be cheapened in the way stated; but I still think it would be too much of a good thing—too expensive.—ED.]

DO BEES KEEP QUEENS FROM LAYING?

I was asked by an old bee-keeper how bees manage to keep the queen from laying. He said he noticed (in observatory hives) that the worker bees gather around her in a circle with heads toward the center, thus keeping her inclosed in the middle. This was something new to me. How is it?

When a queen is superseded do the bees rear the new queen from a natural cell (same as in swarming), or from a forced one? If from the latter, are not all queens from superseded colonies forced queens?

Goshen, Ind. H. J. SCHROCK.

[There are seasons when the queen stops laying under the impulse of instinct, as for instance in winter or during a severe drouth. In some instances the workers regulate the amount of brood to suit the peculiar conditions by destroying the eggs already deposited; but we have never noticed them actually preventing the queen from performing her functions.

As a general rule, supersedure queens are reared from embryo queen-cells about the same as in a case of swarming. This, however, is not invariably the case, as we have known of instances in which the supersedure cells were removed so often that the bees started building them over the larvæ in the worker cells. The general rule is that they proceed as in swarming.—ED.]

MORE DRONE COMB FROM WORKER FOUNDATION.

Talk about bees making drone comb out worker foundation, p. 841, I can go you one better. This last spring I had one colony that made drone comb out of a *full-frame worker comb*. Said comb was at least three years old, with only a few patches of drone comb on the edges. When I discovered it, it was so full of sealed drone-cells on *both sides* that I estimated the worker-cells left on both sides together did not amount to over *four square inches*.

Fredericktown, Mo. JAS. BACHLER.

[This is quite a remarkable incident. I do not remember to have seen a case like it before.—ED.]

WHEELBARROW-SPRINGS — A SUGGESTION.

Mr. Root:—I saw on page 391 Mr. John W. Murray's article on the wheelbarrow, and I am tempted to say to you that I too would like to see the Daisy wheelbarrow improved in this way. Have the wheel made two inches smaller; the springs lighter, so as to act as springs; have the springs

turned up instead of down. This will throw the weight of the load on the wheel instead of on the man who is wheeling. The wheel being smaller, with the same length of spring as at present, one can clean the dirt off the wheel much easier. Lighter or less highly tempered springs

can be used by letting the springs press up against the woodwork of the shafts. I want to get a wheelbarrow next spring, and I wish to speak in time. Of course I do not expect you to take to my way of thinking unless you see it is for the best; but I will gladly pay the difference in cost.

You say in your catalog that the Daisy wheelbarrow will carry 500 lbs. Don't you see that a set of springs that will carry such a load are no springs at all under a lighter load? but with the springs as they are, they ought to be bent the other way. My wheelbarrow springs snapped badly in frosty weather; in fact, they broke like pipe stems; but in warm weather they stood the test of weight very well. There is too much weight on the man who is wheeling, and not enough on the wheel.

WM. H. EAGERTY.
Cuba, Kan., July 30, 1903.

[Your bent-up spring would have less elasticity and less strength than one bent the other way. The small wheels would not be as good on a rough path or road as the larger ones; that is to say, on ordinary uneven ground, a large wheel is much more easy on combs than a smaller one; and, after all, the small wheel and bent-up spring only enables you to handle a little heavier load providing the roadway or path or ground is fairly even. Why not use the larger wheels and take less load and make more trips? Try the experiment some time with a small paddy wheelbarrow, with a small wheel, and then with a modern wheelbarrow with a large wheel. I think you will find the push or pull, or, technically speaking, the "draw-bar pull," would be much greater in the first case mentioned than in the last; so that what you actually save in weight would be more than counterbalanced in the extra strength exerted to push the small wheel over obstructions. The same problem is encountered in the wheels used in automobiles. But the objection to small wheels is overcome by the use of pneumatic tires, into which an obstruction may crowd without materially impeding the progress of the vehicle.—ED.]

NOT A POISON.

Referring to that brood Mr. Keating sent you (p. 842), you may recollect that, prior to receiving it, you received a similar sample from me. You communicated with me by letter, for which I am much obliged. You have expressed your opinion as to the likelihood of death by poison in both cases.

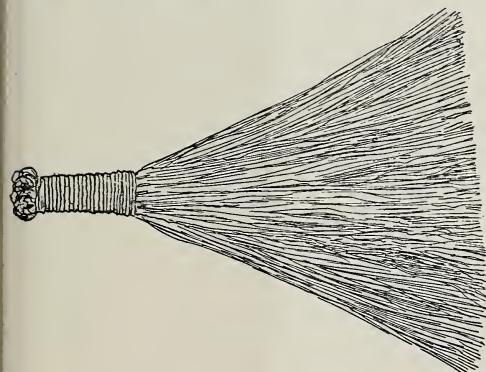
This disease has been among my bees for fifteen or twenty years. I have cured it from time to time by simply giving the affected colony a healthy vigorous queen. In my opinion it is caused by excessive heat. When the thermometer registers about 110°, bees, brood, and queen alike become seriously affected—the latter often diminishing in size to such an extent that her abdomen is hardly larger than one-fourth the size of a normal queen. These affected queens seldom live through winter. The proof of my theory is, that introducing a healthy queen generally stops the progress of the disease.

MOSES BRAY.

Morgan Hill, Cal.

A HEMP BEE-BRUSH.

The article on whisk-broom bee-brushes in GLEANINGS and the *Amer. Bee Journal* was read with considerable interest. While spending the past season in California with several large and experienced bee-keepers I was taught several valuable lessons. One was the making of a bee-brush that is, in my opinion, the acme of perfection. Take twenty inches of one-inch hemp rope; double together, and bind with stray threads



of hemp or foundation-wire to the length of four inches, for a handle; then fray out the ends of your rope and soak it half an hour in water, and you have a brush that will neither disable a bee nor mar in the least the cappings. When dirty, or daubed with honey, you can wash and wring dry, like any cloth. I have used both whisk and hemp brushes in the management of 500 colonies of bees, and I would not use any but the home-made article. By the pressure of your thumb you can regulate the width of your brush so as to cover a Langstroth frame at one stroke. You can credit Mr. C. I. Graham, of California, with the above method, for he is the gentleman who taught me.

GEO. HERRICK.

West Pullman, Ill.

SKUNKS—HOW TO DESTROY THEM.

I want to say a few words relative to trapping skunks in bee yards or elsewhere, and the disposition of them after being caught.

Fasten the trap-chain to the end of a ten-foot pole or board, heavy enough so they can not drag it away. Then, instead of putting them in a nail keg (in which case you would have about 99 failures out of every 100 skunks, or shooting them, in which case, if you try it, you would think there were at least 200 failures out of every 100 trapped), approach the rear end of the pole or board cautiously, and fasten a rope to it, five or six feet in length. Then start off slowly, dragging skunk and all after you. You can drag them any distance you see fit, and there will be no odor. Then you can dispatch them in any manner you wish. But, kill them as you will (unless you take hold of the pole and dip them in water deep enough to submerge them), there will be odor. The object of this method is to get the odor, if any, a safe distance from the house or bee-yard. Try this, and see how easy and sure it is.

HOW TO PREVENT SWARMING.

I also wish to say a few words in reply to the question as to how I prevent my bees from swarming, and where one can get a non-swarming race. I have thought of this a great deal; and the more I think of it the more firmly I am convinced that we all have non-swarmers if properly manipulated. In other words, I believe that, instead of its being natural for bees to swarm, it is the reverse. Of course, there are exceptions to all rules; but swarming according to nature is the exception (barring Carniolans). Give your queens plenty of room as needed at the proper time, and the workers the same, and I will guarantee the rule will be no swarming—at least in this latitude. I presume these few remarks will cause the bee-keepers to swarm; but try this simple method and you will hive yourselves automatically.

Say, friend A. I., don't you think it would have been better to give that poor Cuban boy a little honey, and let him keep his dime also, even though it was Sunday—page 853?

ELIAS FOX.
Hillsboro, Wis., Oct. 28.

KILLING SKUNKS; SHOOTING WHILE CAPTIVE NOT TO BE RECOMMENDED.

I was reading on page 847 regarding Mr. Green's method of trapping skunks out of the apiary; also what you had to say about it. Now, let me tell you right here that you don't want to use a gun of any kind if you don't want to come to grief, for you can not kill a skunk so dead that he will not throw his scent. The inexperienced would naturally think you could; but I know this as a personal fact, as I have killed hundreds of them. Mr. Green's plan is all right if you just keep your head. Another good plan would be (if there is no danger of any thing else getting in) to set a snare attached to a springpole, and then in the morning you have Mr. Skunk hung up high and dry by the neck.

CHAS. E. GATES,
Springfield, Pa.

MOVING BEES A SHORT DISTANCE.

We have had satisfactory results in moving bees about a quarter of a mile. The hive was closed with wire cloth, before sunrise, at the same time giving smoke and a good shaking; then moved to new quarters, on the way striking the hive occasionally with a stick so as to frighten them thoroughly and cause them to fill themselves with honey, and finally bumped them down on new stand. Very few bees returned to the old stand. This idea was taken from an old number of the *Australian Bee Bulletin*.

Hahndorf, So. Austr. J. J. DARBY.

AN EMBALMED SNAKE.

Of late I have seen in GLEANINGS some talk about bees covering any thing dead in the hive. About three years ago I had a very large swarm in a big box that frames would just fit in. One day I found on the bottom-board a long crooked ridge of wax and propolis. Upon opening it I was surprised to find inside a snake about 8 in. long. The bees must have stung it to death and then covered it up. There was no smell, and the snake was preserved in good shape.

Mayfield, N. Y.

G. W. HAINES.

THE FORMALDEHYDE CURE.

I still use formaldehyde. I have been making some experiments with it; and as soon as spring comes and I can have another trial, if it proves as satisfactory as it did this season I will write it up for GLEANINGS. I took 9 first premiums at our county fair, amounting to \$22. One first premium was a nucleus of black bees with queen, treated for black brood, on a full set of combs 18 days before, and not a dead larva in the combs. Have made several trials already, but would like to try it again before writing.

Mayfield, N. Y.

G. W. HAINES.

HOW TO USE FORMALDEHYDE SO THAT IT WILL CURE.

Seeing an item in GLEANINGS for Oct. 1 in regard to formaldehyde not being a sure cure for foul brood, I will give some of my experience with it, as I have used it in my business as inspector of apiaries for Santa Barbara Co., Cal.

At first I did not have the success that I desired; but I did a little differently each time, and finally have come to the conclusion that it will cure foul brood and black brood if rightly used. It has done the work all right, as I have used it of late. I have treated several apiaries, varying from two to over a hundred colonies in each, and have cured all that I have treated under my present system. Now for my mode of treatment.

I use a Goodrich atomizer No. 4, and formaldehyde, equal part with water. Go to the hive to be treated and raise the body of the hive in front enough to work so as to

spray the liquid on to the bottom-board. The bottleful will be enough for about six hives for one application, which I make three as a course of treatment. I make the applications about two weeks apart, and apply it cold, and do no more than to spray it on to the bottom-board. If it is sprayed on to the combs it will kill all that it touches. The gas dries up the diseased matter in the cell, and the bees clean it out and make every thing shine, and the colony soon becomes strong and prosperous; but the hive must have ventilation or the gas will asphyxiate the bees, and that makes a bad matter worse. If the hive is tight the cover must be raised by placing something between it and the top of the hive, about $\frac{1}{4}$ inch thick. After spraying the liquid on to the bottom board, set the hive back in place and the work is done.

Lompoc, Cal. GEO. E. HINKLEY.

NEW LIGHT ON BULK COMB HONEY.

On page 837 I notice this remark: "Or we possibly may have to get up some scheme whereby chunk or bulk comb honey can be divested of every suggestion of adulteration, so that the general public in the cities will buy it the same as it will section honey."

Answer to this question simply rests on when, if ever, the National Pure food Bill of the last Congress is enacted into law, and enforced. If we can get that law, or a similar one, the adulteration of honey will be a criminal offense, and we can then print on our labels the government law on the question, stating that the goods are put up under and are subject to inspection and analyses under that law.

Again, if we can get on to some means whereby we can pack honey so that it will not granulate, and can assure customers that, when they open the cans of honey, they will be liquid, just as when taken from the bees.

H. R. Boardman says he has found a method that will solve the problem, and that he has been at work on it especially because he wished to apply it to the packing of bulk comb honey. He has promised to make it known at the earliest moment he feels he can do so, and all we can do is to await his action.

However, if in packing bulk comb honey you will heat your extracted honey and pour it on the comb while warm, and then seal the cans air-tight, you will find that it will keep at least a year just as it was packed. Now, then, there is more money in bulk comb honey at 10 cts. than there is in section honey at 14, because it takes less expensive equipment, less work, less freight, less loss by breakage in transit, and you get nearly double the honey you would get if producing section honey.

As a package for bulk honey, there is nothing better than the friction top cans as made by the American Can Co. for their Texas honey trade, the same being the standard adopted by Texas bee-keepers.

They are at once a shipping-package and a retailer's package. We would urge the bee-keepers, if they begin the production of bulk honey, to insist on having those cans so that there will be a standard in the United States the same as there is already in Texas.

I believe that, when we can get a pure-food law, and put up comb honey in a way that will not granulate, we have the honey of the future, and, as I have said before, I am looking to the time when it will be universally produced.

H. H. HYDE.

Floresville, Texas, Oct. 6.



Let no man judge you in respect . . . of the sabbath.—COL. 2:16.

Six days shalt thou labor, and do all thy work; but the seventh day is the sabbath of the Lord thy God.—EX. 20:9, 10.

Some of our older readers may remember that I have once or twice considered briefly the matter of having Sunday on the wrong day of the week. In consideration of the fact that so many good friends who take GLEANINGS hold that Saturday is the right day, instead of the day that the most of the world has chosen, I had thought I would not take the subject up again. God knows I do not wish to hurt the feelings of anybody; neither do I wish to dictate to others how or on what day they shall worship God; but because I think there are quite a few who would like to hear my opinion on the subject, I will go over it briefly again.

Since we talked about selling honey on Sunday I have had three letters, insisting that the good brothers can sell as much honey on Sunday as they like, without transgressing any of God's laws. One of the three took me to task so roughly, and looked down on me so patronizingly, I filed his letter away without answering it at all, and that is something I very seldom do. Where a writer asks for a reply, or evidently expects something in the way of recognition, I very rarely neglect giving him an answer. The letter I append below seems to be written in a very good spirit, and I take pleasure in submitting it:

A. I. Root:—My dear brother, I hope you will pardon me for differing with you on a point of theology. It seems to me that you are a little off when you say that Sunday was set apart by God as his holy sabbath. I understand the Bible to teach that he set apart the seventh day, or Satu-day, as it is now called, as his sabbath, and commanded all men to keep it holy. Christ and his apostles evidently kept it, and I can not find any place in the scriptures where God ever changed the day, or sabbath, or authorized any one else to change it. If you know any place in the Bible that authoriz-s such a change, you will greatly oblige myself and others if you will point out the chapter and verse.

E. STRINSON.

Butterfield, Ark., Oct. 8.

Dear friends, if you expect me to take up

this matter point by point you will be disappointed. It would be out of place in a journal like this. Perhaps I might as well say here that I can not take space for reply unless the replies offer something I have not heard before. I have read more on the subject than I ever expect to read again. Yes, I feel almost like saying I have wasted more time in reading the printed matter the good friends have sent me than I can afford to waste again. I have hunted up references from my Bible; but I hope these friends will excuse me when I tell them there is nothing in my Bible, from beginning to end, that would indicate to me the great Father would be pleased to have us change our present Sunday to Saturday. My opinion is he would be displeased to have us waste our time on so unimportant a matter. If these good friends really insist we are making a great mistake in having our rest day on the first day of the week instead of the seventh, then I would suggest that the shortest and easiest remedy would be to call Monday the first day of the week, and then Sunday would be the seventh. That ought to suit everybody all around; but, if I am correct, these zealous friends of ours stoutly reject this solution of their difficulty. I say their difficulty, because a very great majority of the Christian world does not see any difficulty at all. You will remember how the Savior rebuked the Pharisees for their foolish notions about the sabbath. You will remember, too, what he said about straining out a gnat and swallowing a camel; and it really seems to me as if this were a fair illustration of making so much ado about Sunday being the wrong day when this world is actually so full of sin and crime.

Monday is the first working day of the week; and I was a grown-up man with considerable intelligence (you may smile, but what I say is actually true) before I knew that people generally called Sunday the first day of the week. Well, now, if you prove to me that the whole wide world recognizes Sunday as the first day, and may be the laws of our land declare it so, it would not make one bit of difference with my opinion in regard to the matter. I would still insist that it would be a thousand times easier to make Monday the first day of the week than it would to have people generally the world over throw every thing out of joint in an effort to have Sunday on Saturday, especially with the view in mind that the great God above, the Creator of the universe, would be pleased by such a revolution. When the matter was first brought to my attention, years ago, before I was a Christian, I said the peculiar position taken by the seventh-day people had no reason back of it. All of God's laws are founded on reason and common sense. If we do not see it at once, our Bible students and our ministers of the gospel can give us information in regard to the whys and wherefores. Let me tell you a little story.

When it first became fashionable to use a

fork instead of a knife to convey food from the plate to the mouth, I rejected the new-fangled innovation. Some of the younger people may smile. I can imagine some of the children who read this Home paper will say, "Why, mother, was there ever a time when people ate with their knives, putting a knife to their mouth instead of using a fork?"

If the mother is sixty years old or more she will reply, "Yes, my child, I can remember quite distinctly when everybody put the knife to the mouth until the new custom came around."

Well, as I said before, I rejected the new custom because I declared there was no sense nor reason in it. But Mrs. Root said, "Why, my dear husband, there is the best sense and reason in the world for this change. Your knife is used for spreading butter on bread. If a butter-knife is not on the table it would not be ill bred to take some butter with your own knife when it is passed. Would you like to see somebody take his own knife out of his mouth and cut off a slice of butter from the butter-plate? Or where there are individual butter-plates, as is usually the case now, would you throw away all the butter left on the individual plates? Now, if all those at the table took butter with a knife that had never been placed in the mouth, all the butter in these little plates could be saved, and it would be as good as ever. Do you not see the good sense that prompts this change in the manner of eating?"

I owned up at once, and from that time forward I have carefully abstained from putting my knife into my mouth, using a fork or spoon instead. When the matter was first brought to my attention, I thought the new fashion was like many other "whims," or "style," without sense or reason to support it. Just now physicians will tell you there would be great danger of conveying contagious diseases if everybody followed the practice of taking his knife out of his mouth and putting it in the butter that might be used by some other person.

Now, if the good friends have ever brought forward any sort of *reason* for the change they propose, or if they have ever shown us that they would accomplish any thing for our physical or spiritual development, I have never yet seen it. They simply say we must do it because God says so. In the first place, God has *not* said so in his holy word to me. He does say very plainly and distinctly that we are to work six days, and keep the seventh holy. Travelers who have been all over the world will tell you that the world has not been able since the creation to have Sunday exactly in unison the world over. They could not have it at the same time, for a part of the earth would be in the darkness of night. And then there might be a discussion that could never be settled as to *what day* was the one God meant.

Now please forgive me, friends, if some

of you think I am a little irreverent in what I say. If the Bible did say, or could be made to say, that it was God's wish that we should keep Saturday instead of Sunday I should lose my faith in the Bible, and I should lose my faith in God. Do not fear, dear friends. God has never yet said any thing to his children that is unreasonable. The old patriarch Abraham said, "Shall not the Judge of all the earth do right?" And the great Judge did at that time do right, and has done right ever since. I am not a theologian; but one of the ablest scholars in theology that it was ever my privilege to have as a friend, said something like this: "The great schools of theology agreed, ages ago, that *reason* stands back of God." It is the heathen that our missionaries find in the islands of the sea who have rigmaroles of senseless rites that they go through with to appease the wrath of their gods. It is not the United States of America, nor any Christian nation.

Now, please do not think from the above that I have any but the kindest of feelings toward those who hold these peculiar views. God knows I would not say any thing nor do any thing to hurt their feelings in the least; and I am glad to say that many who hold these views are very charitable toward other Christian people. You will remember that I once stopped with a good brother in Florida, who kept Saturday as a rest day. Somebody asked me, before I called on him, what I was going to do about it. I said at once that I should really enjoy conforming to the custom of these friends I was visiting. Of course, I talked the matter over with my host; and as we finished I said, "Now, friend K., I have joined with you in worshiping God according to *your* custom. Should you ever come to Medina, which I hope you will, may I not expect that you will go with me to church and Sunday-school, and unite with us in remembering the sabbath day in keeping it holy according to *our* custom?" He replied that he would, of course; and later in the day I found that he was in close touch with Christian workers all around him who did not hold his views.

Here is another kind letter which I wish to submit:

Mr. A. J. Root: - As this is my first year's trial of GLEANINGS I wish to express my appreciation of the same. I enjoy reading your Notes of Travel, and also Our Homes; and under the heading of "Remember the sabbath day to keep it holy," I believe you are a man who is trying to make the world better by your life; yet I fear there is somewhat of a compromising spirit when you would encourage Sunday traffic. Now, sir, is it right to do wrong to gain thy brother? I say, no. Christ, when he went to the temple and found them buying and selling, did not say, "We had better let go for this time for fear we lose our influence," but he drove them out. I believe we must stand out firm against wrong every time, and leave the results in God's hand and he will take care of his own cause. I probably take a different view of this matter, as I see so much of the compromising spirit in the church of to day, being so much like the world, having a form of godliness but denying the power thereof. I have felt thankful when reading the temperance sentiments expressed in GLEANINGS; and may the Lord bless you in your good work on this line. I am almost a beginner in bee culture; but I have learned at least some

from GLEANINGS, and I hope the Lord will spare your life to years of usefulness.

Athens, Ont., Can.

R. M. BROWN.

You will observe that the dear brother who writes the above thinks I am in danger of *compromising* with evil. Now, friends, as I see it, we absolutely *must* put a common-sense interpretation on God's command to remember the sabbath day to keep it holy. Let me give you an illustration.

Our postoffice at the cabin in the woods is two miles from our home. The meeting-house where we hold our Sunday-school is one mile from home. During the past summer a postal box was set up right close to the church. It is the nearest place for us to mail our letters. Is there any thing wrong in taking the letters when we go to Sunday-school and dropping them in the letter-box? Now, there may be some among the readers of GLEANINGS who will say we should not go near the letter-box on Sunday, not even to drop in a letter. Better go back home and travel a mile and back over the hills Monday morning. Perhaps a few will say this — may be none at all. In the above I have supposed, of course, that the cards and letters were written on Saturday and mailed on Sunday. I very rarely write to anybody on Sunday, not even to my own brothers and sisters. Perhaps I am more conscientious in this than the most of you. Mrs. Root does not feel about it as I do, and she often writes long letters to her absent children Sunday afternoon. I do not think she will mind my telling it, because so many other good Christian people do the same thing. But writing letters is a great part of my daily work on week days. I try not to *work* on Sunday if I can help it. Well, once last fall the man who owns the thrashing-machine said he was ready for me to draw in my buckwheat. I had two men and two teams engaged to start the work early Monday morning. Saturday night, after dark, he sent his little boy to say he could not do our thrashing at the time we had planned. Farmers get up early in that region, even before daylight, and the man would be along with his team a little after daylight, and he would have to go back home again when he was greatly crowded unless I got a message to him. Should I go over Sunday evening and tell him of the change in arrangements, or should I get up Monday morning, before daylight, and go by the light of a lantern? There was no other way. I could send word by the children at Sunday-school concerning the different arrangements about thrashing; but that would be "doing business" on Sunday.

At another time, a postal card was brought to me at Sunday-school, that required an answer by the very first mail that went out. Somebody else would be greatly inconvenienced unless I got that postal card out. Should I write on a postal card that I happened to have in my pocket, and drop it in the letter-box, or should I make a trip of a mile early Monday morning? I can

not remember exactly now just how I managed to avoid doing even a very little business on Sunday to save time and annoyance to others besides myself on a week day. My impression is I got up before daylight in the one case, and walked two miles through the woods, with a lantern, rather than do business on Sunday. In the other I think I studied up some way to avoid writing a postal card and mailing it on Sunday.

In the above instances some of you will say I was foolish for being so conscientious. There are others who may say, and with good reason, that I was on the safe side in avoiding even the appearance of evil by way of transacting business on God's holy day. But the point before us is not whether I did right or wrong. I am of no more consequence than the rest of the world, unless, indeed, we might say that in the position of a Christian writer I should be very careful about the example I set and the precedent I make. May God help me to keep this in mind. The main point to us all, as citizens of this present age, as citizens of this Christian nation, is that God may help us all to use the best *common sense* he has given us in deciding just where our duty lies.

Years ago I read a little fable about some good people who were trying to move their church. They were working with crowbars and blocks, and toiling and sweating. Some bystander asked them why they were moving the church. The reply was, "There is a dead snake back if it." When he suggested it would be much cheaper to move the snake, even if it was a rather repulsive job, than to move a heavy meeting-house, they all stopped work and acknowledged that his way would accomplish all that was desired, but they "hadn't thought of it." Now, it seems to me that some of the seventh-day friends are very much like the poor people who were going to change the location of their meeting-house. My opinion is that no one can lay down cast-iron rules for observing the sabbath. I am satisfied it is God's wish that the whole wide world should cease, as far as possible, from week-day traffic. We should especially try to avoid going ahead with any thing in the line of personal gain. Jesus told us repeatedly that "it is lawful to do well" on the sabbath. If our neighbors are sick or in trouble, it is always in order to let our own worries and cares go and help those neighbors. If they lack food or clothing or medicine or a nurse, or the services of a physician, get them for them. If you feel like getting up in the morning and looking after the children in your neighborhood who will probably go to Sunday-school if invited, I believe that God is pleased to have us do such work, even though we may feel very tired before the Sunday-school is over. If you have some letters that should be posted, and you are going past the post-office or postal box, take them along. I would not, however, put off going to the

postoffice Saturday just because you could do it on Sunday and thus save time; and it behooves us to remember that in deciding all matters of this kind we are not deciding questions for our neighbors, nor for the whole world to criticise. It is before the great all-seeing eye of God the Father, who knows even our inmost thoughts. "God is not mocked; for whatsoever a man soweth, that shall he also reap."

The writer of the second letter asks the question, "Is it right to do wrong to gain a brother?" and I think I can agree—in fact, perhaps I am safe in saying it is *never* right to do wrong; but I would add I do not believe God will lay it up against us as being "wrong" if, under certain circumstances, we let a neighbor have a small amount of honey and take the money for it, even if it is on Sunday. Remember that Paul says, "I am made all things to all men, that I might by all means save some." When Jesus found the Jews buying and selling, and were greedy for gain in the temple, he found a great public wrong that was going right along day after day and year after year. It was not the case of a solitary person who did not know or consider he was transgressing God's commands. There was nothing else to do than to drive those sabbath-breakers out of the temple. Few of us are called on to turn people out of doors like that. We are, however, called on, every one of us, who professes to be a follower of Christ Jesus, to preach the gospel in season and out of season. I am sure it is far better to make a mistake, or say a little mistake, now and then, in deciding what we shall or shall not do on the sabbath day than to sit down and do nothing. Whenever a neighbor comes to your home you have an unusually good opportunity of winning him to Christ. The circumstances are quite different from what they would be in the case of your going and hunting him at his home. Missionaries tell us that in foreign lands they sometimes have to work months and years to get a hold on those who are prejudiced against them. They are always delighted when somebody calls and wants something. When a man wants something, and it is in your power to supply his wants, he is in unusual readiness to listen to you. When I am traveling I am glad of any opportunity that permits me to form a new acquaintance. If I am obliged to travel some distance beside even a bad man, I usually make some effort to get acquainted with him; and very many times I may be able to change his views, especially where he has mistaken ones. My conscience troubles me when I let the hours pass without saying a word to anybody or trying to do him good. Yes, my conscience troubles me when I sit still or spend too much time in reading, even on Sunday; but I am always happy when I find an opportunity for cheering and encouraging some one in ways that are right. Those who judge by outside appearances might think I hadn't any proper reverence

for the sabbath; but God knows my heart fully, and the hearts of those to whom I am talking; and when I feel the approving voice of the Holy Spirit, I do not feel much troubled.

A word more about selling honey on Sunday. Our seventh-day friends have not said so, but I presume they would object to selling honey on Saturday. Suppose a man who knew nothing of their peculiar views should go eight or ten miles on Saturday for some honey. Would they tell him he could not have it? Or suppose one of their number kept a store. He could not sell on Sunday, because few people would buy of him except those of his own belief; and he would not sell on Saturday because it is his sabbath. Could he compete with other storekeepers if he shut up two days in a week? And this reminds me that many people indicate to the public at large their views on these matters by putting up little signs. At the town of Bingham, near our cottage, there was a notice saying, "Positively no goods sold on Sunday." In passing county infirmaries and other public buildings I often see notices to the effect that visitors will not be received on Sunday. I am not quit sure, but it strikes me I once saw a little sign in a bee-keeper's dooryard something like this: "No honey sold on Sunday." This would answer two purposes—everybody would take it for granted that he did have honey for sale on week days; and they might also wisely conclude that this bee-keeper was a good man and tried to do right before God and his fellow-men. Of course, accommodating a neighbor is quite a different matter from running a Sunday business. I do not believe in having butcher-shops, barber-shops, fruit-stands, nor any thing of the kind open on Sunday.

One Sunday, while in California, I purchased a five cent tablet at a news-stand; and I was promptly rebuked by the brother I was staying with for encouraging Sunday traffic. He lived out in the country, where it might be difficult to get the stationery I wanted, on week days. As we passed by a news-stand on our way home from church, without considering very much I made the purchase I have just mentioned, and I am sorry I did it. But do you not see, dear friends, how difficult it is to lay down rules for each other in this matter? May God give us wisdom and understanding, and help us that not only on Sunday but all through the week we may "do justly, love mercy, and walk humbly before God."

DRUGSTORES, SALOONS, ETC.

Friend Root:—I read with much interest your article on the "Anti-saloon League." I am with you on the temperance question. It may be that things are different in Ohio from what they are here; but with us the drugstores are the worst of saloons. A man who is able to set up a small drugstore would not go into the saloon business, as the license is too high. He will merely take out a "druggist's license," which amounts to little or nothing, and opens up, to all intents and purposes, a saloon. He may have a very small stock of drugs; but the barrel of whisky is sure

to be there, and he will sell by the drink to all of those he can trust not to inform on him, and will be in collusion with some doctor who will furnish prescriptions to all others; and he will make money, and branch out into a big drugstore, buy a farm, and drive fast horses to a fine rig. This is not overdrawn, my friend, but is what I have known to be done. With you it may be, "Down with the saloons!" but with us the drugstore is far worse than the saloon. One reason is, men will go into a drugstore and take a drink, and yet they would be ashamed to be caught in a saloon. Again they will sell whisky to boys under age, which the saloon-keeper is afraid to do. The man with the "ready-made prescriptions" can sell to any one. Small towns here have two or three drugstores where one could not make more than a living out of the business if he would confine himself to the sale of drugs and medicines.

McAllister, Mo.

B. HAMM.

Friend H., what you mention is true more or less all over our land; but let us not rush to the conclusion that *all* drugstores are of this class. My own brother kept a drugstore for many years, and he did a very profitable business, although he sold no intoxicating liquors of any sort. He did not even have a license for so doing. Of course he was severely criticised by certain persons, and I believe they went so far as to say that human life may have been lost because he refused to sell the alcohol used for compounding medicines.



Mr. Root:—I have read with much interest what you say under the head of "What shall we Eat?" in Health Notes, page 851. As you are aware, I at one time took the beef diet cure. My trouble was acid dyspepsia (sour stomach) brought on, not by abstinence from meat, or by the eating of fruits and vegetables, but by eating too fast, masticating too little, and eating too much. My stomach had gotten into such a state that everything soured as soon as eaten, and you may believe that I was discouraged, and that every thing looked blue. But the beef-diet treatment cured the acidity and I have never been troubled with it since—now seven years.

I think your advice in regard to plain ordinary food is good. Still, I believe that we do not know all in regard to this diet question yet; and that there are higher planes of living than ordinary hotel fare would lead to. I am certain from certain observations and experiments of my own, of somewhat recent date.

I will remark that one noticeable thing in regard to lean meat is, that it does not seem to furnish muscular strength, no matter how much is used. Now, it is vital force that we want, and we want a diet that will give us muscular and nervous force. Certain writers in the health-reform journals advocate a diet of natural food—that is, nuts, grains, fruits, and vegetables in right proportion, and uncooked. We all know something about the various health foods (so called) prepared from the whole grain. But they do not stand the test, and must sooner or later be discarded. The life has been roasted out of them, and they do not satisfy nor furnish strength as an ideal diet should.

I have been greatly troubled with constipation, which of course, grows out of my earlier wrong habits. I have found that I could not live on the ordinary hotel diet for many weeks consecutively without getting all out of fix. One reason is, that, as a rule, they use baker's bread made from fine flour, and potatoes boiled with the skins off, both of which articles are about as near worthless as any thing you could find excepting pastries. Some time ago I got into trouble away from home as indicated above. I decided to try the natural-food plan. I had previously discarded breakfast, and was drinking only fresh water, and plenty of it, which, of course, is the proper thing to do, and is advocated by all the reformers without excep-

tion. Well, to the test: I procured some nice white northern wheat, some seed raisins, some large California dried prunes, some English walnuts, some fresh roasted peanuts, some nice rolled oats, and some white-clover extracted honey of my own production. The lady of the house furnished me what sweet milk I wanted. For fresh fruits I bought white California grapes or nice ripe Concords and a few pears. On account of my old trouble with acidity I am forced to avoid sour fruits and select the milder sorts. Now please study the list that I have given you. There is no meat in it; but I know by experience that it is a wonderful diet for me. I stuck to it rigidly for several weeks, and I will just mention here that I am blessed with a perfect set of teeth, and can easily and thoroughly masticate white wheat. I ate some of the wheat flavored with nuts, and then for a change would try the rolled oats, which I think is one of the most delicious things I ever tasted, for a man having natural hunger (there's the rub); too many of our people never know what natural hunger is from one year's end to another, surfeited all the time with foods in an unnatural and spiced condition. I began to crave something green at one time, and ate some crisp cabbage with only a little salt on it. That was delicious too, and for my part I never expect to eat cooked cabbage again. Often raw it is about as near perfect as any green food you can get. But on hotel tables it is always fixed up with vinegar or some other trash that spoils it for the natural food man.

Now as to the result in my case—it was wonderful. At the time, I had charge of a railroad station that is considered a hard one, doing all the work myself. There was twelve good hours of work every day, and I was compelled to work some every Sunday in order to get out the reports on time. But I did something else. I felt so good that I got out in the evening and ran foot races with an eighteen-year-old boy, and stood on my head. He beat me in the race, but I beat him in raising a heavy weight the most times, although he is much the larger. I tell you this to show you that there was no muscular weakness as a result of the diet, which, we must concede, was not stimulating.

In order to demonstrate this, if I had time, I would be willing to come to your place and allow you to confine me to the use of natural foods for ten days, and during that time I would engage to work along with any of your men whose duties are the most arduous.

If you want to know what is the effect of a strictly meat diet on muscular strength ask Ernest. Still, in certain cases I think it is a good thing. What are we living for? Shall we eat for strength and life, or to see how much we can consume, and keep an army of women in kitchens over hot stoves from morning till night inventing, mixing, spicing, in order to minister to a perverted and abnormal appetite?

In experimenting I have made one or two discoveries that are worth knowing. As I said before, the prepared foods, such as granola "force," and the like, have had the life roasted out of them; but if you want something very fine, take Pettijohn's rolled wheat, and parch a little the same as in parching corn. Do it lightly, so that some of the grains are only just touched. Then serve hot with cream or milk. This beats any prepared food I ever saw. It has a delicious parched-corn flavor, and has not been cooked to death as the others have.

HARRY LATHROP.

Monroe, Wis., Oct. 29.

Friend L., I am exceedingly glad to get the above report, especially since you have been "through the mill" on the beef diet. By the way, I should be glad to hear briefly from all who have made a trial of this diet, especially those who have made a trial through the recommendations of either Ernest or myself.

Yes, I am painfully aware that a meat diet does not furnish muscular or vital force. When I spoke about the hotel diet, I had in mind a good deal the bill of fare one gets at country hotels, say through Michigan, in towns so small they do not need to use baker's bread, and where you can get Michigan potatoes roasted with the skins on, eating the peelings and all. I notice you have tried the modern no-breakfast invention. Huber has followed this for years. One hot day when we were out in

the automobile, in getting up a bad sandy hill he overworked right in the sun, and had a little touch of something like sun-stroke. He said afterward this was caused by being persuaded to eat breakfast with the rest of us. Had he gone without breakfast he claimed he would not have had any trouble. It would seem, however, that discarding breakfast did not give you the robust health that it does the advocates of this plan.

I am glad of your testimony in favor of the nut diet. Just lately I have been made happy, and nourished at the same time, by eating five cents' worth of roasted chestnuts after a meal—that is, when I could get hold of them. When they are roasted and "taken hot" they digest with me perfectly, and give lots of strength (I wish more of our people would go to planting chestnut-trees as I am doing). Sweet milk with the fruit and nuts is all right—that is, if you live outdoors.

When you spoke about raw cabbage I had to smile. Ordinarily I can not eat cabbage at the table without great distress the night afterward. But when I am out in the field where, say, Jersey Wakefield cabbage-heads are bursting open, I can eat and eat raw cabbage, and feel happy, and it has never troubled me a particle.

The point you make about "keeping an army of women over hot kitchen-stoves, just to get a big dinner," is a grand one; such things are a disgrace to the present age. By the way, you did not tell us whether you are now living on grains, fruits, and nuts, or not. At any rate, I am glad to know, old friend, you are still finding health and strength and happiness, and a disposition to do good to your fellow-man that always comes with it, or ought to.

HOW TO CURE CONSUMPTION.

The above heading would look as if I had something to sell for the "benefit of poor humanity," etc.; but the heading is by A. I. Root, and he has not any thing to sell in the line of drugs or medicines. What he has to offer is well illustrated by the following, which I clip from the *Cleveland News and Herald*:

E. C. Norris has just reached New York from a tramp across the continent. His home is in San Francisco. The doctors told him he had consumption. He decided to walk it out of his system, if possible, and he has walked three thousand miles in twenty-six months. Incidentally, he wore out sixty-one pairs of shoes. He didn't hurry. He saw more beautiful things in nature than he had dreamed existed. He saw broad acres and mighty mountains. He heard strange birds, and talked with fine people. Those he met everywhere. They were kind to a stranger, and he discovered that there are no map limits to brotherly love.

And as he walked he felt strength returning. He dropped his cough in Arizona, and lost his aches in Colorado. When he reached the great wheat-fields of Kansas he was tanned and happy, and he trudged along, glad that he was living. It looks and feelings count for any thing, E. C. Norris is a well man. His flesh is hard, his muscles firm, he sleeps like a baby, and his brain never slips a cog. That is what walking did for him. And it suggests that walking is one of the best of exercises, good for the health and the digestion, a cure for the blues, a remedy for bad nerves,

a promoter of peaceful sleep, and excellent for the temper. Try it some day.

Now, friends, the above prescription would probably cure hundreds and thousands of people, even if they have the real consumption. It wants a little Christian science about it, if you will excuse the term, to give the patient faith. If he can scrape up faith enough to have some enthusiasm in testing the cure, he will get well. Perhaps some may not be able to walk more than a mile the first day. I think it would be a good plan to have some faithful friend go along with him—his wife, for instance. Of course, you would need some money, but not much more than to pay doctors' bills, after all, and some arrangement would have to be made so the patient could find protection in case of severe weather. If he can walk half a mile the first day, and rest up so as to make another half-mile the following day, his case is a hopeful one. He should have an ambition, however, to go a little further each day; and then he should give his whole soul to the work, for it is in real truth a matter of *life and death*. If it were my case, if my life depended on it, Mrs. Root would go with me. My work up in the woods in Northern Michigan was exactly in that line. When I first started I was so used up by a little exertion for half an hour I became discouraged, and almost yielded to the notion that I was too sick to start out in any thing of the kind. Why, I almost feel like having some slips printed for free distribution, telling how this man walked away from his own "funeral."

THE FUTURE OF SWEET CLOVER.

It has pained me to see the way in which many of the agricultural papers have talked about sweet clover, especially in answering inquiries. Here is something from the *Country Gentleman*, however, from John Chamberlain, that is a fair recognition of its true value:

I never see a swampy growth of sweet clover that a man could fairly get lost in, as he would in a southern canebrake, without wondering why some one has not taken it up and made it a leader in hay-producing plants. As we see it, only one crop is produced, but where it happens to be cut down before seeding, and before the main stem becomes woody, it springs up again at once and covers the ground with the most succulent growth imaginable, and always quite indifferent to dry or wet weather. Some day we shall appreciate sweet clover.

The writer of the above item does not say outright that it will be eaten with the greatest avidity by almost all kinds of stock when they once create an appetite for it, but he seems to take it for granted it is of value. None of the clovers can be classified as noxious weeds. Of course, even rank red clover in a strawberry-patch might be called a weed; and sweet clover has perhaps created the impression that it is a weed because it grows luxuriantly, even on the hardest ground by the roadside, where red clover would not grow at all. It is really one of the hardiest and most valuable of the clovers.

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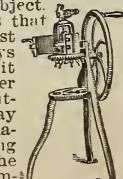
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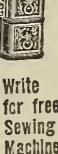
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Our Bee-Keeping Sisters—This department is only about a year old, and yet it is coming to be of great interest, especially to women bee-keepers. Miss Emma Wilson, who conducts it, is a successful bee-keeper of many years' experience, and knows what will help the women readers as well as others.

Hasty's Afterthought—This is by E. E. Hasty himself. He reviews, and comments upon, what has already appeared in preceding numbers of the Bee Journal, pointing out errors, and also commending what he deems worthy.

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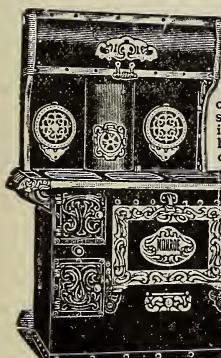
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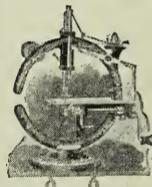
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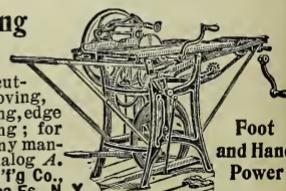
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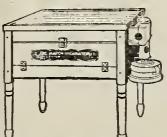
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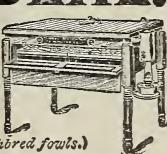
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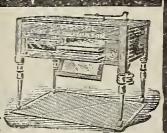


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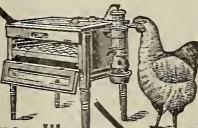
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SOAP THAT WILL REMOVE PROPOLIS.

(What W. Z. Hutchinson says.)
"Lava soap will remove propolis from the fingers. Mr. Chalon Fowls told me this when I visited him recently. He had difficulty in finding the soap in the stores; and when his grocer finally secured a supply, Mr. Fowls bought a whole box that he might not again be without it. He gave me a cake to take home, and the boys who work in the printing-office gave it a trial, and are enthusiastic over it. It is the first thing they had tried that would completely remove the ink stains from their fingers. Then I tried when my fingers were all stained up with pyro in developing photographic negatives, and the stains disappeared as by magic. Here before I have been compelled to go round for several days with my fingers stained—go until it finally wore off. It is particularly adapted to the use of any one handling greasy, inky, or sticky substances. Every bee-keeper knows what a comfort it would be to have his fingers cleaned of the sticky propolis after his day's work is done, and Mr. Fowls says that it will do this. I think it would be a good thing if some dealer, like the Roots, for instance, would handle this soap, then bee-keepers, when ordering their supplies, could order a few cakes of this soap. I will add that, while the soap is such an excellent resolvent of sticky, greasy substances, it is perfectly harmless to the skin."

We are now prepared to furnish this soap at 10 cents per cake; box of 12 cakes, \$1.00; 100 cakes in wooden box, \$8.00. Postage, if wanted by mail, 8 cents extra.

Special Notices by A. I. Root.

THE VETERANS IN BEE CULTURE.

After I had finished my talk at the Los Angeles convention I noticed that I had entirely overlooked Adam Grimm and the great lift he gave to the bee keeping industry; and worse still, I neglected a recognition of what the Dadants have done since away back when our bee journals were first started. I felt the more regret because friend Dadant was with us, and helped very materially to make the convention as well as our outings pleasant and profitable occasions.

THE FREIGHT DEPARTMENT OF THE PERR MARQUETTE RAILWAY.

When there is so much trouble about freight shipments being delayed; overcharges loss of goods, etc., over the average railways of the United States, it is certainly encouraging—at least it is so to me—to find one great railway system that not only carries goods with promptness, but whose charges are almost al-

ways a little less than what I expected according to the agreement. Besids, your stuff is always delivered in good condition, with rarely a short gr. May be it just happens so; but my private opinion is, there is a lot of careful painstaking people connected with that road from beginning to end. I wonder where they got them. It must be they grew somewhere in Northern Michigan, the greater part of them—the place to go when you want to get strong and well, and in good condition to love your neighbor as yourself.

Wants and Exchange.

WANTED.—To sell bees and queens.
O. H. HYATT, Shenandoah, Iowa.

WANTED.—\$5 a colony for Italian bees in 8-frame hives.
H. S. DUBY, St. Anne, Ill.

WANTED.—To sell strawberry plants. Catalog free.
NORTH STAR PLANT FARM, Kokato, Minn.

WANTED. To sell choice alfalfa honey, in 60-lb. cans. Prices quoted on application.
W. P. MORLEY, Las Animas, Col.

WANTED.—A partner for bee-keeping on large scale. Excellent prospects, never failing honey crops.
L. MARNO, Kingston, Jamaica.

WANTED.—To sell about 8 lbs. catnip seed that will grow; \$1.00 per lb. for lot; 1 lb., \$1.25; 2 oz., 25 cts.
B. L. BYER, Oviatt, Mich.

WANTED.—To exchange modern firearms for incubators, bone-mills, and shell mills. Address
216 Court St., Reading, Pa.

WANTED.—To sell 3570 lbs. best white-clover extracted honey, in 60-lb. cans at 7c per lb.
C. G. LUFT, Ada, Ohio.

WANTED.—Names and addresses of those who want good books or sheet music. Ask for prices on what you want.
M. T. WRIGHT, Medina, Ohio.

WANTED.—Your address on a postal for a little book on Queen-Rearing. Sent free.
Address HENRY ALLEY, Wenham, Mass.

WANTED.—The address of all who are still in need of cartons.
QUIRIN THE QUEEN BREEDER,
Parkertown, Ohio.

WANTED.—To sell 15,000 lbs. best white-clover extracted honey in 60-lb. cans, at 8½ cts. per lb.
WALTER S. PODER,
512 Mass. Ave., Indianapolis, Ind.

WANTED.—To correspond with parties desiring a position to take care of an apiary, assisting in the supply trade and be useful generally. Young man preferred.
JOHN NEBEL & SON, High Hill, Mo.

WANTED.—To exchange a nearly new 2 h. tread-power, power bone-grinder, and incubator for bees or empty hives, frames, or offers.
G. A. LUNDE, Wausau, Wis.

WANTED.—To sell 140 strong colonies of pure Italian and hybrid bees, in one-story 8-fr. L. hives. Wired combs built on foundation. Winter stores. Price \$420. Also complete outfit cheap. No failures in 10 years.
T. H. WAALE, Sara, Clarke Co., Wash.

WANTED.—To sell 900 colonies of bees, located where the honey crop has never been a failure. A dwelling-house costing \$2000, three honey-houses and a shop. Every thing up to date and complete. For particulars address

A. B. MARCHANT, Marchant, Fla.

WANTED.—To sell aparian outfit of 200 colonies Italians in Dovetailed hives, in best white clover part of Minnesota (also basswood and goldenrod); to a buyer of the lot. colonies at \$1.00 and accessories at one-half list price; combs 20c a square foot.
X Y Z. GLEANINGS.

WANTED.—To sell best type-writer for bee-keepers; practical, handy, low-priced. For exchange, Mann green-bone mill, good as new, cost \$16.00. Want 8-frame L. or Dovetailed hive; or extracting supers for same; extracting-combs from healthy apiary; double shotgun, 16 gauge.
HARRY LATHROP, Monroe, Wis.

WANTED.—To sell at a bargain. Three incubators, one 2½ vertical engine, good as new.
G. ROUTZAHN, Biglerville, Pa.

WANTED.—To trade a Sure Hatch 120-egg incubator, almost new, for pen of White Leghorn, Wyandotte, or Plymouth Rocks, or for Italian bees.
JOHN N. MAY, Marengo, Iowa. Box 401.

WANTED.—To sell my home, consisting of 8 roomed house, cistern, and running water; barn, 24x36; shop and honey-house, 18x31, and 3 acres of land; together with my bees underground, bee-repository, queen-business, and good will. My best breeding-queens go with the bees. See pp. 293, 935, GLANINGS for 1903. Will move about 20 rods on old Doolittle homestead, and am willing to help the purchaser a month or so for the first year or two. Reason for selling, over-worked. Price \$2500.

G. M. DOOLITTLE, Borodino, N. Y.

THE OVERLAND LIMITED.

Via The Chicago & Northwestern Ry. Leave Chicago 8:00 p. m. daily, through to San Francisco, Los Angeles, and Portland. Is the most luxuriously train on the continent, electric-lighted throughout. Private dining-room, observation, drawing-room, dining, buffet, library car, barber, bath, private reading-lamps, telephone (for use at terminals), less than three days en route to California. Two other fast trains daily. For particulars regarding rates, sleeping-car reservations, and descriptive pamphlet apply to your nearest ticket agent, or address A. F. Cleveland, 231 Superior Street, Cleveland, Ohio, or address W. B. Kniskern, Passgr. Traf. Mgr., Chicago.

Oyster Shells, 100 lbs., 60c; 200 lbs., \$1. Mica Crystal Gril, 10J lbs., 70c. **Wise & Co., Butler, O.**

FOR SALE.—6000 lbs. choice ripe clover honey, new; 60-lb. cans. **ELIAS FOX, Hillsboro, Wis.**

FOR SALE.—Fancy basswood and white-clover honey; 60 lb. cans, 8c; 2 cans or more, 7½c; bbls, 7½c.
E. R. PAHL & CO., 294 Broadway, Milwaukee, Wis.

FOR SALE.—Fancy and A No. 1 comb honey from alfalfa, in Danzenbaker 4x5 sections. Write for prices.
WM. MORRIS, Route 1, Las Animas, Col.

FOR SALE.—Extracted choice ripe clover honey in cases of two 60-lb cans each, at 8 cts. per lb. 335-lb. bbls, at 7½ cts per lb.

G. W. WILSON, R. F. D. No. 1, Viola, Wis.

FOR SALE.—Extracted honey, amber, 5% up; light 7 up. Several size packages. Samples, 10 cts.
I. J. STRINGHAM, 105 Park Place, New York.

WANTED.—Beeswax. Will pay spot cash and full market value for beeswax at any time of the year. Write us if you have any to dispose of.

HILDRETH & SEGELEN,
265-267 Greenwich St., New York.

WANTED.—Extracted honey. Mail sample and lowest price; also fancy and No. 1 comb honey; must be in no-drip shipping-cases. We pay cash.
CHAS KOEPPEN, Fredericksburg Va.

WANTED.—Comb and extracted honey. State price, kind, and quantity.
R. A. BURNETT & CO.,
199 South Water St., Chicago, Ill.

WANTED.—Honey. Selling fancy white, 15c; amber, 18c. We are in the market for either local or car lots of comb honey. Write us.
EVANS & TURNER,
Columbus, Ohio.

WANTED.—Comb honey. We have an unlimited demand for it at the right price. Address, giving quantity, what gathered from, and lowest cash price at your depot. State also how packed.

THOS. C. STANLEY & SON,
Fairfield, Ill., or Manzanola, Colo.

WANTED.—Beeswax; highest market price paid. Write for price list.

BACH, BECKER & CO., Chicago, Ill.

We will be in the market for honey the coming season in carloads and less than carloads, and would be glad to hear from producers everywhere what they will have to offer.
SEAVEY & FLARSHEIM,
1318-1324 Union Avenue, Kansas City, Mo.

PAGE & LYON,

New London, Wisconsin.

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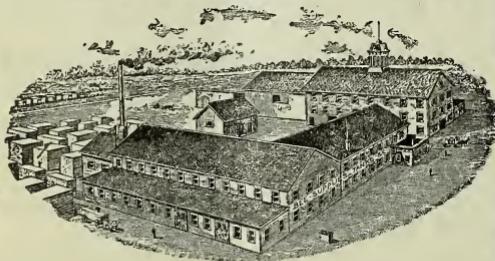
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The government, recognizing the necessity of a great and growing business enterprise, for better mail service has given us a postoffice on our premises, which enables us to change mails with the passing trains instead of through the Wetumpka, Alabama, postoffice more than a mile distant. This gives us our mails about two hours earlier, and also one hour for making up outgoing mail. This will be particularly helpful in our queen business. We are now booking orders for Italian queens, Long-tongued and Leather-colored; both good.

J. M. Jenkins,
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Shipping-point and Money-order
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Kretchmer M'f'g Company,
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Best-equipped factory in the West; carry a large stock and greatest variety of every thing needed in the apiary, assuring BEST goods at the LOWEST prices, and prompt shipment. We want every bee-keeper to have our FREE ILLUSTRATED CATALOG, and read description of Alternating Hives, Ferguson Supers. Write at once for catalog.

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Foster Lumber Company, Lamar, Colo.



BINGHAM SMOKER.

Dear Sir—Enclosed find \$1.75. Please send one brass smoke-engine. I have one already. It is the best smoker I ever used. Truly yours,
HENRY SCHMIDT, Hutto, Tex.

MADE TO ORDER

Bingham Brass Smokers.

Made of sheet brass, which does not rust or burn out; should last a lifetime. You need one, but they cost 25 cts. more than tin of the same size. The little open cut shows our brass hinge put on the three larger sizes. No wonder Bingham's four-inch smoke-engine goes without puffing, and does not drop inky drops. The perforated steel fire-grate has 881 holes to air the fuel and support the fire. Heavy tin smoke-engine, 4-inch stove, per mail, \$1.50; 8½-inch, \$1.10; 8-inch, \$1.00; 2½-inch, 90c; 2-inch, 65c. Bingham smokers are the originals, and have all the improvements, and have been the standard of excellence for 23 years. Only three larger ones brass.

T. F. Bingham, Farwell, Michigan.



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Place your orders early and save delays in freight transportation; also, avoid the worry and loss of not having supplies on hand when needed. We carry a full line of

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can fill orders promptly at as low a price as well-made goods can be furnished.

Prices same as at Factory.

Send for our 40 page catalog.

**John Nebel & Son,
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4 Per Cent. Discount for December Orders

Hagen's Foundation.

HAVING installed a complete, up-to-date Weed Process Comb Foundation Machinery, I am prepared to furnish a high grade of comb foundation, and am prepared to supply the same in regular packages. Work up wax, or take wax in exchange for foundation. I guarantee satisfaction.

Highest Price Allowed for Beeswax.

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Why Not



Place your order now? We will make you special prices for early delivery. We are headquarters in Central California for Root's Cowan Extractors, Sections, Weed Foundation, Smokers, etc., as well as a full line of local-made supplies. We can give you prompt service. We solicit your patronage.



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BEE-KEEPERS

Our 33d annual catalog (for 1903, 92d edition) is now ready. Send for a copy at once. We have a full line of goods in stock, and can fill orders promptly. Save freight by ordering of the St. Paul branch. **Bees and Queens.** Orders booked now for spring delivery. **Honey and Wax.** We handle honey and wax. Write for particulars.

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We sell the Root goods here at Root's factory prices, which means the freight is paid to Des Moines, Iowa.

Immense stock and every variety of the best up-to-date goods now on hand packed for prompt shipment.

Satisfaction is guaranteed on every order sent us. Thousands have been pleased with their goods from us. We can satisfy you.

Write for estimates, sending list of what you will need, and get our discounts for early orders. We will save you money. Send to-day for 1903 catalog.

JOS. NYSEWANDER,
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26th Year

Dadant's Foundation.

WHY DOES IT SELL SO WELL?—Because it has always given better satisfaction than any other. Because in 25 YEARS there have been no complaints, but thousands of compliments.

WE GUARANTEE SATISFACTION—What more can anybody do? Beauty, purity, firmness, no sagging, no loss. PATENT WEED PROCESS OF SHEETING.

BEESWAX WANTED AT ALL TIMES.—Send name for our catalog, samples of foundation, and veil material. We sell the best veils, either cotton or silk.

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Bee-Keepers Supplies of All Kinds.

DADANT & SON,
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4 Per Cent. Discount DURING THE MONTH OF DECEMBER.

There is every evidence that there will be a heavy demand for goods the coming season; and if you defer placing your order until next February or March, you will not only lose your discount, but may have to wait for the filling of your order some weeks. Indeed, you can afford to borrow money, and get your goods now, thus having them all ready for next season's use. . . .

Every Month You Wait, It Will Cost You 1 Percent Per Month.

The styles of goods will be about the same for next season, so there is no use waiting for a new catalog. But remember prices have advanced, owing to the increased price of material; but if you Take Advantage of our Early-Order Discount you will not be paying any more for your goods than last year. A word to the wise is sufficient.

The A. I. Root Co., Medina, O.

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